

# PSYCHOLOGICAL ABSTRACTS

Vol. XII, No. 3

MARCH, 1938

## GENERAL (incl. Statistics)

1001. **Adrian, E. D.** The late Professor Pavlov. *Brit. med. J.*, 1936, March 14, 560-561.—*R. R. Willoughby* (Brown).
1002. **Aitken, A. C.** A note on Sheppard's contribution to mathematics and mathematical statistics. *Ann. Eugen., Camb.*, 1937, 8, 9-11.—This is a brief comment on Sheppard's contributions to statistics and mathematics, emphasizing the range, thoroughness, and quality of his work, and particularly his independence of thought.—*J. W. Dunlap* (Rochester).
1003. [Anon.] **W. F. Sheppard's published works.** *Ann. Eugen., Camb.*, 1937, 8, 13-14.—*J. W. Dunlap* (Rochester).
1004. **Beritov, I.** [I. M. Sechenov and his scientific service in the field of investigation of the activity of the central nervous system.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 489-506.—I. M. Sechenov, the father of Russian physiology, published from 1863 to 1891 on the physiology of the central nervous system. He discovered the inhibitory effect of the brain stem upon spinal reflexes and believed that the brain has a special inhibitory mechanism. He showed the inhibitory effect of strong or medium stimulation of sensory nerves. He discovered summation in the central nervous system. He preceded Sherrington in many of these discoveries and theories. He removed the brain stem from a frog and with a galvanometer obtained spontaneous discharges at a frequency of one per minute. One of his important fields of research dealt with the importance of muscle receptors in reflex behavior. German summary.—*C. L. Prosser* (Clark).
1005. **Bernstein, F.** Regression and correlation evaluated by a method of partial sums. *Ann. math. Statist.*, 1937, 8, 77-89.—Expressions for correlation and regression coefficients are given based on absolute deviations instead of the usual Gaussian values which are squared to eliminate the negative sign. These new expressions are linear and can be easily computed, as shown by examples. If the normal laws hold for both variables this method is not as efficient as the familiar Pearson product-moment coefficient, but for other distributions this is not generally true. The method is recommended in all cases in which the data lose reliability with increasing deviations from the mean. Sheppard's corrections are not needed.—*J. W. Dunlap* (Rochester).
1006. **Camp, B. H.** Methods of obtaining probability distributions. *Ann. math. Statist.*, 1937, 8, 90-102.—The emphasis of this paper is on method. It describes and illustrates many of the methods used to determine exact probability distributions and to show that they are all derivable from one fundamental formula.—*J. W. Dunlap* (Rochester).
1007. **Carter, J. W., Jr.** A new serial presentation apparatus. *J. gen. Psychol.*, 1937, 17, 409-414.—This apparatus utilizes a paper belt to present a large series of stimuli to the subject. It has provisions for controlling the duration of stimulation, recording reaction time, and signalling correctness or incorrectness of response. Wiring diagrams and other details of construction are presented in the paper.—*H. Schlosberg* (Brown).
1008. **Clausse, A.** Les principales tendances de la psychologie expérimentale. (The principal trends in experimental psychology.) Liège: 1936. Pp. 159.—The first two chapters trace the genesis of experimental psychology, which is an outcome of the development of the positive sciences in the nineteenth century (particularly biology and physics). The effect of associationism on philosophers, psychologists, physiologists, and psychiatrists is also discussed. The third chapter takes up the main contemporary trends, and the author compares the subjective psychologies (the Würzburg school, Gestalt psychology, Dilthey's structuralism, Stern's personalism, and eidetism) with the objective psychologies (associationism, Russian psychoreflexology, and behaviorism in its various forms). He separates the psychologies of the subconscious (Freud, Adler, and Jung) from his subjective group. The following sentence from his conclusion is characteristic of his general attitude: "The history of psychology during the last few years has been dominated by a conflict between the sterile illusions of a past era, which has not been willing to abdicate, and the vigorous reactions of a ratiocination which has been freed from all allegiance to foregone conclusions and which is no longer content with idle formulae." The book contains a brief bibliography.—*R. Nihard* (Liège).
1009. **Datta, A.** On the definition of psychology. *Indian J. Psychol.*, 1937, 12, 87-101.—The author presents a very brief historical sketch of the development of psychology, adds the definitions of psychology proposed by some eighteen modern and contemporaneous psychologists from Wundt to Wheeler, and concludes with some discussion of modern schools of psychological thought.—*L. A. Averill* (Worcester Teachers College).
1010. **Datta, A.** Obituary: Dr. Alfred Adler. *Indian J. Psychol.*, 1937, 12, 103.—*L. A. Averill* (Worcester Teachers College).

1011. Dwyer, P. S. The use of subcorrelation in the analysis of non-linear or non-homoschedastic correlation charts. *J. educ. Psychol.*, 1937, 28, 541-547.—In a study of the problem of predicting college success from high-school records, it was found that the high-school records predict better for the high group than for the low group. A subcorrelation technique is presented in detail as a method of providing definite and comparable measures of such variations of predictive power. The subcorrelation method is said to be useful in analyzing correlation tables in which (1) a linear trend is present but there is a wide variation in the SD's of the rows or columns, and (2) the SD's of the rows are nearly equal but the means do not lie on the same straight line.—A. W. Melton (Missouri).

1012. Fisher, R. A. The character of Sheppard's work. *Ann. Eugen., Camb.*, 1937, 8, 11-12.—The characteristics of Sheppard's work are its mathematical thoroughness and the clarity with which practical aims were kept in view. Practically nothing he ever wrote ought to be retracted, and little is obsolete.—J. W. Dunlap (Rochester).

1013. Griffin, H. D. The nomograph as a psychometric device. *Psychol. Bull.*, 1937, 34, 735.—Abstract.—R. H. Brown (Clark).

1014. Hellpach, W. Einzelheit und Ganzheit. (Singleness and totality.) *Industr. Psychotech.*, 1937, 14, 129-139.—All man's work is first pictured, either actually or mentally. Each single item, though complete in itself, must be seen in its relation to the total. Unless this single part's relation is not clearly recognized, the total will be that much distorted. Discovery of the whole comes before the single parts, but the finished whole comes out of the parts.—J. C. G. Seidl (Manhattan College).

1015. Heyer, G. R., & Seifert, F. [Eds.] *Reich der Seele. Arbeiten aus d. Münchener psychologischen Arbeitskreis.* (Kingdom of the mind. Studies from the Munich psychological work circle.) Vol. 1 & 2. Munich, Berlin: Lehmanns Verl., 1937. Pp. 158; 158. RM. 5.80.—R. R. Willoughby (Brown).

1016. Higley, B. R., & Renshaw, S. An improved device for the continuous pneumatic recording of respiration and changes in blood pressure. *J. Psychol.*, 1937, 4, 281-285.—Pneumatic apparatus and a polygraph system are described which give clear records 1 in. to 1½ in. in amplitude with barograph pens and ordinary fountain pen ink, but still do not cause the subject discomfort. "The essential unit is a small capacity syphon or thin-gauge metal bellows enclosed in an airtight metal housing. By means of a triple valve, pressure from the cuff of a clinical-type Baumanometer is equalized inside the bellows and in the enclosing chamber. By thus maintaining a pressure equilibrium inside and outside the bellows a very considerable added sensitivity is obtained, thus permitting continuous recording at tolerable or even comfortable pressures."—J. McV. Hunt (Brown).

1017. Holmes, R. W. The idealism of Giovanni Gentile. New York: Macmillan, 1937. Pp. 264. \$3.00.—Gentile's philosophy insists fundamentally that truth and reality cannot be discovered or discussed except in conjunction with the act of knowing, and as an integral part of it.—J. G. Miller (Harvard).

1018. Horst, P. The diagonal elements in the correlational matrix. *Psychol. Bull.*, 1937, 34, 737.—Abstract.—R. H. Brown (Clark).

1019. Huntington, E. V. Exact probabilities in certain card matching problems. *Science*, 1937, 86, 499-500.—With a deck of 9 cards composed of 3 suits of 3 cards each it is known that the possible number of "runs" is 1680. If each of these possible "runs" is "matched" against any fixed "run" (taken from a duplicate deck) the number of hits found may be called the score of that "run." The author has computed by direct elementary means the exact frequency with which each possible score will occur in a complete cycle of runs. The results are presented in a table. The same is done for a 4-suit, 4-card deck. The labor for a 5-suit, 5-card deck is too prohibitive for direct computation.—F. A. Mote, Jr. (Brown).

1020. Hutt, M. L. Some applications of statistical methods to clinical problems. *Psychol. Bull.*, 1937, 34, 746-747.—Abstract.—R. H. Brown (Clark).

1021. Jaensch, E. R. Ansprache an Herrn Hofrat Dr. Arthur Meiner. (Address given in honor of Dr. Arthur Meiner.) *Z. Psychol.*, 1935, 136, 1-4.—The author gave this address for the 70th birthday of Meiner on June 28, 1935, as the representative of the psychological journals and of the psychological sciences of the publishing house of J. A. Barth.—G. F. J. Lehner (Brown).

1022. Kuo, Z. Y., & Carmichael, L. A technique for the motion-picture recording of the development of behavior in the chick embryo. *J. Psychol.*, 1937, 4, 343-348.—This technique requires that the egg be incubated to the stage at which it is desired to begin observations. It is held in a special position which determines, especially in early stages, the suitability of the embryo for observation. When observations are to begin, a window is cut in the large end of the shell in such a way as not to injure the inner shell membrane. This membrane is rendered transparent by treatment with vaseline at a temperature just above its melting point. With proper control of the vaseline, the transparent region remains localized, and does thus not interfere with the respiration of the embryo. When the egg is suitably supported and lighted by 2 1000-watt tungsten filament lights, one on either side, the behavior of the embryo may be photographed with a 16-millimeter camera specially fitted with an adapted 1-inch telephoto lens such that each entire frame of film could be covered by the image of the window. A film is described which shows the typical stages of development in the chick.—J. McV. Hunt (Brown).

1023. Kurtz, A. K. Odevity: a concept useful in detecting certain types of errors. *Psychol. Bull.*, 1937, 34, 734-735.—Abstract.—R. H. Brown (Clark).
1024. Langfeld, H. S. The psychology of Carl Stumpf. *Psychol. Bull.*, 1937, 34, 702.—Abstract.—R. H. Brown (Clark).
1025. McGeoch, J. A. A critique of operational definition. *Psychol. Bull.*, 1937, 34, 703-704.—Abstract.—R. H. Brown (Clark).
1026. Mitra, S. C. Gestalt theory in German psychology. *Calcutta Rev.*, 1937, Jan.-June, n.p.—R. R. Willoughby (Brown).
1027. Nayuda, P. S. The hormone in purposivistic psychology and Karma in the Gita. *J. Annamalai Univ.*, 1936-37, n.p.—R. R. Willoughby (Brown).
1028. O'Donnell, C. M. The psychology of St. Bonaventure and St. Thomas Aquinas. *Phil. Stud.*, 1937, No. 36. Pp. 109.—The article consists of a discussion of the various aspects of the psychological theories held by St. Bonaventure and St. Thomas, and compares the fundamental postulates of the two men and their relation to major psychological problems. Bibliography.—J. Brockwell (Brown).
1029. Paterson, D. G. Proceedings of the forty-fifth annual meeting of the American Psychological Association, incorporated, Minneapolis, Minnesota, September 1, 2, 3, 4, 1937. *Psychol. Bull.*, 1937, 34, 639-800.—R. H. Brown (Clark).
1030. Peatman, J. G. Hazards and fallacies of statistical method in psychological measurement. *Psychol. Rec.*, 1937, 22, 365-390.—Obstacles to valid generalization and inference in psychological measurement are presented according to whether they may be considered as hazards of generalizing or as specific statistical fallacies. The first named include fallacies of selection, such as the genetic fallacy, anthropomorphism and enelicomorphism (generalizing from adult to child), the fallacy of pigeon-holing, and the fallacies of estimating probability. The second group includes the fallacy of over-refined data, fallacies arising from spurious correlation, the possible fallacy of inferring causality from correlation coefficients, the *post hoc ergo propter hoc* fallacy, fallacies due to recognizing different or changed standards of comparison, and finally fallacies arising from the misuse of statistical techniques.—P. S. de Q. Cabot (Simmons).
1031. Riordan, J. Moment recurrence relations for binomial, Poisson, and hypergeometric frequency distributions. *Ann. math. Statist.*, 1937, 8, 103-111.—It is shown that the moments about the origin and about the mean, for binomial, Poisson, and hypergeometric distributions, can be expressed in terms which are alike for all three series. For both kinds of moments the coefficients satisfy relatively simple recurrence relations.—J. W. Dunlap (Rochester).
1032. Ritter, W. E. Mutually interpretative relation between human and avian natural history. *Sci. Mon.*, N. Y., 1937, 45, 524-534.—"All the most definitive qualities of humans—those powers and activities of theirs named thinking, reasoning, and understanding—are inseparable from certain qualities manifested by all bodies known as living." Man's superiority in anatomical-physiological equipment for acting is apparent, but entitles him to no high ranking unless it is used in accordance with its own nature, namely, acting for the welfare of self and one's kind to the fullest possible extent.—O. P. Lester (Buffalo).
1033. Roback, A. A. Behaviorism at twenty-five. Cambridge, Mass.: Sci-Art, 1937. Pp. 256. \$1.75.—The author offers comments and opinions on twenty-five years of behaviorism. A bibliography, starting in 1923, includes 336 titles.—W. S. Hunter (Brown).
1034. Ruckmick, C. A. The psychological laboratory at the University of Iowa. *J. exp. Psychol.*, 1937, 21, 687-697.—An historical account of the development of the psychological laboratory at the University of Iowa, with brief descriptions of the individual units and their special features.—H. W. Karn (Pittsburgh).
1035. Saffir, M. A. A comparative study of scales constructed by three psychophysical methods. *Psychol. Bull.*, 1937, 34, 716.—Abstract.—R. H. Brown (Clark).
1036. Schiller, P. Az intézet működése. (The activities of the Institute.) *Lélektani Tanulmányok*, 1937, 1, 17-21.—This is a brief description of the work and organization of the Psychological Institute of the Royal Hungarian Petrus Pázmány University. Examples are given of the experimental work and dissertations now in progress.—P. Ranschburg (Budapest).
1037. Sheppard, N. F. Obituary, William Fleetwood Sheppard. *Ann. Eugen., Camb.*, 1937, 8, 1-9.—This obituary traces the personal history of Sheppard from his birth on November 20, 1863 to his death on October 12, 1936. Although he is best known for his famous work on the moments of frequency curves, Sheppard's corrections, and his tables of the normal, he was an eminent mathematician. Few, however, realize that he was greatly interested in education and was a professional educator, a member of the Board of Education from 1896 until his retirement in 1921. His range of interests, his energy, the quantity and the extraordinary quality of his work clearly indicate Sheppard's genius. Portrait.—J. W. Dunlap (Rochester).
1038. Sprott, W. J. H. General psychology. New York, London: Longmans, Green, 1937. Pp. 446. \$2.75.—The author writes from an eclectic point of view for the general reader and the student, covering all problems from sensation to psychical research, telepathy, and metaphysics. Topics are discussed in the following order: springs of action; social environment; innate constitution of man; action; emotions; development; conflict; psychopathology; other people and the self; field of consciousness; perception; sensation; imagery; memory; belief; thinking; and the relation of mind and body.—W. S. Hunter (Brown).



1039. Sterne, T. E. The solution of a problem in probability. *Science*, 1937, 86, 500-501.—In a consideration of the probabilities of a 5-suit, 5-card deck when the cards are shuffled at random and compared with any fixed sequence of a similar deck it is found that the simple binomial law is not strictly applicable. A few direct determinations of the probabilities are compared with determinations computed by applying the binomial law and presented in a table. The distribution of the directly determined probabilities is found to be fitted by a Type I Pearson curve.—F. A. Mote, Jr. (Brown).

1040. Tryon, R. C. Correlation profile analysis. *Psychol. Bull.*, 1937, 34, 736.—Abstract.—R. H. Brown (Clark).

1041. [Various.] Arthur Guillaume Christiaens. *Bull. Off. intercommun. Orient. prof.*, 1937, 17, No. 63, 1-38.—This bulletin, published by Poignard, the successor to Christiaens in the office of director of the Office Intercommunal de l'Orientation Professionnelle, contains addresses and other articles devoted to the memory of Dr. Christiaens, the director and founder of the office, who died January 21, 1937, at the age of 77. Portrait.—R. Nihard (Liège).

1042. Wali-ur-Rahman, M. The psychology of Al-Farabi. *Islamic Culture*, 1937, Jan. & April, n.p.—R. R. Willoughby (Brown).

1043. Wellek, A. Das Qualitätsproblem der Psychologie. (The problem of quality in psychology.) *Z. Psychol.*, 1935, 136, 116-125.—This is a critical review of O. Reich's book on quality in psychology as based primarily upon auditory phenomena. The author remarks upon the numerous speculations of Reich.—G. F. J. Lehner (Brown).

1044. Z[ilboorg], G. In memoriam: William Alanson White, M. D. (1870-1937). *Psychoanal. Quart.*, 1937, 6, 383-387.—An appreciative survey is offered of the personality and extensive accomplishments of Dr. White, with emphasis placed upon his progressiveness, his erudition, his literary productivity, and his support of psychoanalysis, all of which have contributed greatly to the solid structure of American psychiatry. A full-page portrait is given.—M. H. Erickson (Eloise Hospital).

[See also abstracts 1187, 1205, 1262, 1288, 1419, 1718.]

## NERVOUS SYSTEM

1045. Andrew, W. The effects of fatigue due to muscular exercise on the Purkinje cells of the mouse at various ages. *Amer. J. Physiol.*, 1937, 119, 260-261.—"A study has been made of the effects of fatigue on the Purkinje cells of mice at ages ranging from a time when the animals are first capable of prolonged running until they have reached extreme senility. Exercise has consisted of running in a motor-driven rotary cage built for the experiment. . . . Definite, but not striking, differences are seen in Purkinje cells of fatigued animals when compared to those of controls. The changes consist

chiefly in an increased staining capacity of the nucleus, a loss of Nissl substance, or hypochromatism of the cytoplasm, and changes in volume of nucleus and cell-body. Changes in the Purkinje cells of senile rodents previously studied by the author are far more marked than are changes due to fatigue from muscular exercise."—T. W. Forbes (Harvard Bureau for Traffic Research).

1046. Beach, F. A., Jr. The neural basis of innate behavior. I. Effects of cortical lesion upon the maternal behavior pattern in the rat. *J. comp. Psychol.*, 1937, 24, 393-440.—After reviewing literature on the neural control of unlearned behavior, the author presents data from an experiment in which 30 normal, 50 cortically operated, 10 cortically blinded, and 10 trephined but not cortically deprived rats were impregnated and then observed while caring for their litters under various conditions calling for adjustment. The animals were rated in terms of such factors as retrieving scattered litter, responding to air currents, mortality of young, etc. The results, presented quantitatively in curves, bar diagrams, etc., suggest that the "innately organized pattern of maternal behavior is rendered less efficient or completely abolished by cortical lesions ranging from 1 to 57 per cent of the cerebrum." Peripheral blindness slightly decreased efficiency of performance. Trephining alone had no effect. It is claimed that these experiments fail to support the view that "innate modes of response are mediated exclusively by subcortical mechanisms." Extensive bibliography; plates illustrating litter conditions and reconstructions of lesions.—N. L. Munn (Peabody).

1047. Berger, H. Das Elektrenkephalogramm des Menschen und seine Deutung. (The human electro-encephalogram and its interpretation.) *Naturwissenschaften*, 1937, 25, 13.—The electro-encephalogram reflects the activity of the cerebral cortex. Comparisons and contrasts are pointed out between the nature and significance of the electrocardiogram and the electro-encephalogram. The author indicates the manner of development of his working hypothesis and its relation to other investigations, particularly the confirmatory work of Dusser de Barenne, who studied the specific electrical activity of various cortical levels in the macaque by selective destruction with thermo-coagulation. Six figures are presented in the discussion of the origin and character of the alpha and beta waves of the electro-encephalogram. The former originate in the principal inner cortical zone, continue during sleep, and are altered by pathology. Beta waves of 11-24 sigma are found in the outer cell layer and indicate the physiological activity of the cortex.—H. Stevens (Pennsylvania).

1048. Beritov, I. [Excitation and inhibition in the central nervous system regarded from the point of view of its neuron-neuropil structure.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 21-86.—The felt-work of axons and dendrites which constitutes the region of union of neurons in the central nervous system is the neuropil. The vertebrate nervous



system is of the synaptic neuron-neuropil type. There is evidence (Lorente de N6) for re-exciting circles in the neuropil mechanism. It is concluded that excitation is transmitted through specific neuron chains, while inhibition and facilitation are more general and proceed through the neuropil. General inhibition is the result of electrotonic action of neuropil potentials. These different mechanisms for excitation and inhibition are shown by the facts that there may be, under some conditions, no reciprocity between excitation and inhibition, and that general inhibition can occur without any excitation. General facilitation often follows inhibition. General inhibition can be set up from the brain by either sensory or direct stimulation. Electrotonic currents in the neuropil affect nerve cells in facilitatory or inhibitory ways. Rhythmic waves of electrical activity in the cortex represent re-excitation of elements in closed circle pathways. English summary.—C. L. Prosser (Clark).

1049. Beritov, I. [On the conduction of excitation in the central nervous system of mammals.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 87-146.—Reflex times were measured by muscle action currents, and reflexes (mainly contractions of ipsilateral flexors) were elicited by stimulation of the skin or by electrical stimulation of sensory nerves. Rates of conduction in sensory and motor nerves and in the pyramidal bundles of the spinal cord are similar. The central times for reflexes range from 0 to 4.2 msec. (ave. 1.2 msec.). The propagation from the cortex to motoneurons goes at the same rate as over peripheral nerve in good condition (65-80 m/sec.). A single stimulus may elicit two or more responses. This is shown well in the crossed extension reflex, especially after strychnine, and the late responses are interpreted as being due to the long pathways through the brain. English summary.—C. L. Prosser (Clark).

1050. Beritov, I., Bakuradze, A., & Narikashvili, S. [On the phenomena of excitation and inhibition in the central nervous system. I. The phenomenon of general inhibition.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 147-172.—The inhibition of antagonists is not interpreted on the basis of two conflicting reflexes, as Sherrington suggests, but as a special case of general inhibition. Numerous examples of general inhibition are given. If the extensors are showing tonus, this may be inhibited by weak sensory stimulation without evidence of any excitation. Tetanic stimulation of sensory nerves—either cutaneous or from muscles—leads to general inhibition of antagonistic muscles of hind limbs. Reciprocal inhibition is part of this general case. Reflex contraction (excitation) is conducted by specific nerve pathways, but general inhibition is due to an active state of the neuropil. This active state causes bioelectric oscillations in the cord which result in electrotonic block, decreased excitability, and inhibition. A strong excitatory discharge may overcome the inhibition and cause contraction. English summary.—C. L. Prosser (Clark).

1051. Beritov, I., Bakuradze, A., & Narikashvili, S. [On the phenomenon of excitation and inhibition in the central nervous system. II. The phenomenon of facilitation after inhibition.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 173-196.—If an excitatory nerve is stimulated after stimulation of an inhibitory nerve, a larger response than normal often results. Hence general inhibition is followed by a state of facilitation. If tonic contraction exists, a post-inhibitory rebound contraction occurs which is due to facilitation. Similar results occur with simultaneous stimulation of excitatory and inhibitory fibers. For example, if the right flexors are inhibited by stimulating the opposite hamstring nerve, then stimulation of the right tibialis causes an increased contraction of this flexor. Inhibition is seldom observed upon stimulation by single induction shocks, and the facilitation occurs only if the inhibition ends abruptly. Since inhibition is an electrotonic activity of the neuropil, the ensuing facilitation is increased excitability due to the rapid cessation of bio-electric currents in the neuropil. English summary.—C. L. Prosser (Clark).

1052. Beritov, I., Bakuradze, A., & Narikashvili, S. [On the phenomenon of excitation and inhibition in the central nervous system. III. The interaction of excitation and inhibition in the spinal cord.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 197-231.—Many facts regarding spinal reflexes are not in accord with the Sherringtonian concepts of algebraic summation of excitation and inhibition in the spinal cord. Excitation or inhibition can be strengthened or eliminated completely by proper stimulation; i.e., there is no algebraic summation. If inhibition is weak and excitation strong, then the contraction is maximum in spite of the inhibition. If inhibition is stronger than simultaneous excitation pure inhibition of the muscle results. An inhibitory effect is much weaker when it is added after excitation has started than when it precedes or starts simultaneously with excitation. The absence of algebraic summation is shown by the fact that either excitation or inhibition can add to the other and can eliminate the effect of the other. Numerous examples are given. English summary.—C. L. Prosser (Clark).

1053. Beritov, I., & Kartozya, A. [The changes of the latent period of contraction of a nerve-muscle preparation in connection with the origination of the secondary cathode.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 233-244.—Bending a nerve or decreasing the resistance for a certain distance along it sets up a secondary cathode at the proximal end of this region. The latency of the muscle contraction to stimulation at the end of the nerve decreases accordingly. Apparently the nerve is stimulated at the proximal secondary cathode as if the electrodes were at this point. English summary.—C. L. Prosser (Clark).

1054. Blake, H. Brain potentials and depth of sleep. *Amer. J. Physiol.*, 1937, 119, 273-274.—"Human brain potentials were led from metal disc electrodes on the intact scalp over occiput and fore-

head through a resistance capacity-coupled amplifier into loud speaker, cathode ray oscillograph, crystallograph or some pair of them. Records were taken through twenty-two nights of sleep on seven subjects, during daytime napping on eight and during sleep after insomnia up to 60 hours on five. Sleep depth was measured by the duration of a sound of constant intensity necessary to awaken the subject, as well as by less quantitative criteria. The results indicate that potential patterns correlate with sleep depth not only over long-time (hour) changes but, in most cases, over short-time (minute) swings as well. Deep sleep is associated with large, regular potential waves at  $\frac{1}{2}$  to 3 per second, lighter sleep with feeble irregular potentials or with the 10 per second rhythm. Details of transitional potentials from light to deeper sleep, and especially during spontaneous or stimulated awakening are described."—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1055. Blake, H., & Gerard, R. W. Brain potentials during sleep. *Amer. J. Physiol.*, 1937, 119, 692-703.— $\frac{1}{2}$   $\mu$ v. signals were distinguishable and one-per-second waves were only 10% reduced in amplitude. Depth of sleep was measured by noting (1) duration of a 1000-cycle tone needed to awaken the subject, and (2) the response to the query "Are you awake?" Only 3 or 4 stimuli were used during the night. The sleep intensity curve agreed with the curves of Monninghof and Czerny. Muscle tone (potentials from the gastrocnemius) paralleled sleep, since volleys occurred with longer and longer intervals as sleep grew deeper, with a silent period in deepest slumber. The subjects were 8 men and 11 women, all between 20 and 30 years of age. 22 all-night records were taken on 7 individuals, 8 subjects served for short day records, and 5 after voluntary insomnia of 36 to 60 hours. Sleep was deepest for the first hour or two, and then became progressively lighter; a return to deeper sleep sometimes occurred in the fifth hour. There were suggestions of cyclic swings throughout the night. The brain waves showed a correspondence with the depth of sleep: 10-per-second waves were characteristic of the waking state, with some 20- to 30-per-second frequencies. These decreased in amplitude and regularity in the intermediate stage and became slow waves of one-half to three second duration in deep sleep. Daytime napping was generally a lighter sleep and showed few slow potentials. It differed from the night sleep in that 10-per-second rhythms were often exaggerated at sleep levels which during the night were usually associated with absence of rhythm. In one subject 10-per-second waves continued during hypnosis and no slow waves occurred. The authors corroborate Loomis in that the suggestion of a light eliminated the brain rhythms, but actual light always eliminated the potentials in spite of contrary suggestion. The elimination of the 10-per-second rhythm is interpreted as a failure of the electrical beat in the cortical cells in the case of sleep, whereas such elimination by stimulation during the waking state is attributed to

asynchronization. The slow potentials are interpreted as a slowing of the beating of cells; the interpretation is favored that such slowing occurs in stepwise fashion, as if units dropped abruptly from the fast to the slow rate.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1056. Brink, F., Jr., & Bronk, D. W. Rhythmic activity of single nerve fibres induced by low calcium. *Proc. Soc. exp. Biol.*, N. Y., 1937, 37, 94-95.—The sheath of excised sciatic nerve of frog was removed for a length of one cm., and the fibres separated into small bundles. A single isolated fibre at the other end was attached to non-polarizable electrodes, amplifier and oscillograph. Changes in frequency and rhythmicity of discharge were observed when ionized calcium was partially removed by sodium citrate or reduced by bathing in calcium-free Ringer's. The phenomena are completely reversible, and the nerve may be returned to the resting condition by solutions containing an excess of ionized calcium.—*H. Peak* (Randolph-Macon).

1057. Cannon, W. B., & Rosenblueth, A. The transmission of impulses through a sympathetic ganglion. *Amer. J. Physiol.*, 1937, 119, 285-286.—"Prostigmin, given shortly before tetanic stimulation of preganglionic fibers, cuts short the contraction of the nictitating membrane and induces relaxation; as minutes pass the depressant action gradually disappears. The relaxation is attributed to excess of acetylcholine, preserved from prompt destruction by prostigmin. Prostigmin, injected after tetanic stimulation of preganglionic fibers has failed to maintain the n.m. in full contraction, causes an increase of contraction. If the lower contraction resulted from 'fatigue' (i.e., insufficient acetylcholine to activate some ganglion cells), the increase is explicable as a preservation of acetylcholine until more cells are activated. Injection of acetylcholine during the fatigue phase has an effect similar to that produced by prostigmin, and can be explained on the same basis. . . . Either acetylcholine or prostigmin has a decurzarizing action on the ganglion. The explanation is found in the action of curare as raising the threshold of stimulation. The fatigue effect is magnified (i.e., the level of contraction falls); acetylcholine, by supplying an extra quantity, and prostigmin, by protecting from destruction the acetylcholine which is naturally produced, raise the stimulus above the raised threshold."—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1058. Cate, J. ten. Physiologie des Zentralnervensystems der Fische. (The physiology of the central nervous system of fish.) *Ergebn. Biol.*, 1935, 11, 335-409.—The spinal cord as an organ of locomotion is relatively independent. The delicate mechanisms for the conduction of excitation can be followed from one segment to the next. The breathing centers are in the base of the brain, where cognition also is located. The cerebellum is probably concerned with the lower motor mechanisms by balancing the tonus of all muscles. The frontal lobe is more important than any other part of the

brain. The base of the midbrain is intimately connected with muscle tonus. When it is injured, compulsive positions and movements result. The midbrain is directly sensitive to light.—P. L. Krieger (Leipzig).

1059. Cate, J. ten. *Physiologie des Zentralnervensystems der Vögel*. (The physiology of the central nervous system of birds.) *Ergebn. Biol.*, 1936, 13, 93-173.—An attempt is made to present a complete picture of the central nervous system of birds. Special emphasis is placed on the function of the different parts. Our knowledge especially of the functions of the midbrain is quite limited. Experimental facts are given special consideration.—P. L. Krieger (Leipzig).

1060. Cate, J. ten. *Physiologie des Zentralnervensystems der Reptilien*. (The physiology of the central nervous system of reptiles.) *Ergebn. Biol.*, 1937, 14, 225-279.—Our knowledge of the central nervous system of reptiles is in an even less advanced stage than that of birds and fish. Most of the recent studies are simply continuations of older investigations. Newer methods, such as the measurement of chronaxy, are seldom used.—P. L. Krieger (Leipzig).

1061. Christensen, K. Development of autonomic innervation correlated with reactivity of the fetal pig iris. *Proc. Soc. exp. Biol., N. Y.*, 1937, 37, 65-68.—"Microscopic study of the developing nerves of the iris (fetal pigs) indicates a very intimate relationship between the nerves and the differentiating sphincter muscle. The exact relationship between the initial innervation and the choline ester response has not been determined. . . . However, these findings suggest that the receptive substance (i.e., receptive to choline ester) may develop only after the nerves join the muscle."—H. Peak (Randolph-Macon).

1062. Cruikshank, R. M. Human occipital brain potentials as affected by intensity-duration variables of visual stimulation. *J. exp. Psychol.*, 1937, 21, 625-641.—A preliminary investigation the results of which reveal that cortical response time, as indicated by potentials recorded through the unopened skull, can be varied with the intensity and duration of the visual stimulus in a manner similar to the variations observed in latency of optic nerve response to retinal illumination. These findings suggest a close relationship between retinal and cortical events.—H. W. Karn (Pittsburgh).

1063. Culler, E. Observations on the spinal dog. *Psychol. Bull.*, 1937, 34, 742-743.—Abstract.—R. H. Brown (Clark).

1064. Daniel, J. F. Establishment of the nervous system. *Quart. Rev. Biol.*, 1937, 12, 391-405.—R. R. Willoughby (Brown).

1065. Dow, R. S. The effects of removal of vestibular parts of the cerebellum in primates. *Amer. J. Physiol.*, 1937, 119, 298.—"Operative removal of the nodulus and lower part of the uvula in monkeys is followed by a syndrome of disequilibra-

tion consisting of side to side oscillations of the head and trunk with falling forward, backward, and to either side. The animals exhibited a widely abducted posture and gait, and frequent titubations in walking and running were constantly present. They were totally unable to maintain their position upon a horizontal bar. Following this lesion they did not leap about an enclosure, a behavior characteristic of normal animals. This syndrome gradually disappeared during a period of from five to eight weeks. Throughout the post-operative period all the vestibular reflexes were present and there was a consistent absence of nystagmus. No sign of cerebellar ataxia was detected in the movements of the extremities. Excision of much larger portions of cerebellar cortex elsewhere in the vermis, including the pyramis, failed to produce this syndrome. A similar operative procedure, including manipulation of the nodulus and uvula within the fourth ventricle but without their removal, was not followed by any abnormality of posture or movement."—T. W. Forbes (Harvard Bureau for Traffic Research).

1066. Forbes, T. W., & Andrews, H. L. Independent control of alpha rhythm and "psychogalvanic" response. *Science*, 1937, 86, 474-476.—"The stimuli which have been found to block the alpha rhythm of the encephalogram show a superficial correspondence to those which produce the electrical or 'psychogalvanic' response of the skin, i.e., various sensory stimuli, 'ideational processes' and startling or emotionally toned situations of almost any type." Electric shock, a tone, a startling buzzer, and visual stimulation from opening and closing the eyes were used as stimuli. Records show that the two responses are not necessarily correlated, so that the independence of the cortical rhythm and the skin response to stimuli is shown. This would indicate that the mechanism controlling the sympathetic electrical response differs from that which controls or interrupts the alpha brain rhythm.—F. A. Mote, Jr. (Brown).

1067. Gedevari, D. [On the basic processes of the activity of the central nervous system.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 479-488.—Reflexes were studied in spinal frogs and toads under various conditions. The experiments showed that if the central nervous system is in a state of inhibition or facilitation, this state is diminished when the opposite effect is set up by a sensory stimulus. Inhibition and facilitation are set up in the central nervous system without measurable latency. The central inhibitory or facilitatory processes can alter the condition of a peripheral (motor) nerve so that a stimulus to the nerve is made less or more effective. German summary.—C. L. Prosser (Clark).

1068. Ghiselli, E. Encephalization of brightness discrimination in mammals. *Science*, 1937, 86, 618-619.—As we proceed up the phylogenetic scale there is found an increase in the proportion of uncrossed fibers of retinal origin, as well as an increase in the size of the geniculo-striate complex at the expense of the lower centers and a gradual



merging of the pretectal area with the superior colliculus. From this a change in the functional importance of the various visual centers would be expected. Thus in lower mammals subcortical visual centers should be of greater importance than in higher forms. Evidence that this is not the case is presented from experiments on rats with lesions in the superior colliculus and the pretectal area. Only complete destruction of the striate area produces loss of the habit of brightness discrimination, and even then it can be relearned. It is concluded that in the rat, as in man, in the intact organism the striate area plays the most important role in the habit of brightness discrimination.—*F. A. Mote, Jr.* (Brown).

1069. Gibbs, F. A. Interpretation of the electroencephalogram. *J. Psychol.*, 1937, 4, 365-382.—Cortical potentials are seen as an example of a type of rhythmic activity common in the body. Other examples are the pacemaker nodes of the heart and the respiratory center. Under certain conditions even peripheral nerve shows a type of rhythmic activity comparable to that seen in the cortex, indicating that such rhythmic activity is characteristic of all nervous tissue. Muscular movements may give an accurate record of fluctuations in potential in the central nervous system. A useful simplification for dealing with so complex a structure as the brain is to regard the phenomena in terms of their course in time, i.e., in terms of frequency or wave form. Thus brain cells may be considered as low-power oscillators which link together to form more powerful oscillators. Cortical activity is regarded as the product of a whole mass of oscillators whose activity can be expressed only as a spectrum of frequencies. Normal cortical activity is carried on within certain limits of energy distribution over such a spectrum. A moderate shift in activity toward the fast end of the cortical frequency spectrum is associated with rapid motor responses, and an extreme shift with convulsions and loss of consciousness. A shift toward the slow end is associated with slowing of voluntary motor activity and slowing of mental processes, and a more extreme shift is associated with profound stupor.—*J. McV. Hunt* (Brown).

1070. Grinker, R. R. *Neurology*. (2nd ed.) Springfield, Ill.: Thomas, 1937. Pp. 1008. \$8.50.—*R. R. Willoughby* (Brown).

1071. Halstead, W., Yacorzynski, G., & Fearing, F. Further evidence of cerebellar influence in the habituation of after-nystagmus in pigeons. *Amer. J. Physiol.*, 1937, 120, 350-355.—This work confirms previous studies of Halstead. Ten thermo-cautery lesions of the cerebellum of pigeons were made, averaging from 9 to 23% in extent. Ten normal pigeons were used as controls. Six animals were rotated simultaneously and nystagmus timed with a stopwatch. Two experimental sessions were separated by a two-week interval. Birds with lesions did not habituate to the elicitation of after-nystagmus as readily as controls, nor did they retain

the habituation as long. However, they rehabilitated to a previous level as readily as controls. The lesions produced loss of previous habituation. It is concluded that habituation of after-nystagmus involves modifications within the central nervous system (cerebellum).—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1072. Jacobsen, C. F., & Taylor, F. V. Behavioral changes associated with lesions of the frontal lobes in monkeys. *Psychol. Bull.*, 1937, 34, 767.—Abstract.—*R. H. Brown* (Clark).

1073. Kartozya, A. [The duration of the absolute refractory phase and the latent period of contraction in the "nervous" and "nerveless" parts of the skeletal muscle.] *Trans. Berilov Inst. Tiflis*, 1937, No. 3, 245-252.—The regions of the sartorius muscle with and without nerves were stimulated by paired stimuli at different intervals. It was found that the absolute refractory period in the region of the muscle without nerve was 4 to 6 msec. and in the innervated region was 2-3 msec. The latency of the contraction to stimulation in the "nervous" part was 15 msec., and in the "nerveless" part 20 msec. English summary.—*C. L. Prosser* (Clark).

1074. Klüver, H. Certain effects of lesions of the occipital lobes in macaques. *J. Psychol.*, 1937, 4, 383-401.—From a brief review of the literature on visual agnosia the writer concludes that "in the present stage of research the problem is not whether occipital lobe lesions produce 'agnostic' symptoms, but is rather what kind of disturbances are produced by such lesions." Studies of 7 macaques with unilateral and 5 with bilateral lesions of the occipital lobes were made by way of motor reactions to moving or stationary objects and the various tests of threshold and reaction time for choices. Complete unilateral occipital destruction, involving also injury to Brodmann's areas 18 and 19, was found to result in homonymous hemianopia, with probably no macular sparing. Right or left tendencies (contralateral to the hemianopias) proved characteristic in numerous situations. The animal, e.g., picked up the one of two pieces of food toward the non-hemianopic side even though the other was larger. After an operation the animals improved rapidly in getting objects out of the blind field by the proper movements. Immediately following operation these tendencies overcame hand preference. No differences in either thresholds for color, form, and size, or in the reaction times of the "natural" choices, were found. Neither did any serious defect in the ability to "generalize" become apparent. Bilateral destruction of the macular cortex resulted in far more severe disturbances. Total blindness lasted two days following operation, though reflexes were present. On the third day objects were followed. No R- nor L-tendencies appeared. Later proficiency in recognizing and reaching improved, and at 4 weeks seemed as good as normal. Complete bilateral occipital destruction destroyed object vision.—*J. McV. Hunt* (Brown).

1075. Krechevsky, I. Brain mechanisms and Umweg behavior. *Psychol. Bull.*, 1937, 34, 768.—Abstract.—R. H. Brown (Clark).

1076. Kreezer, G. The dependence of the electroencephalogram upon intelligence level. *Psychol. Bull.*, 1937, 34, 769-770.—Abstract.—R. H. Brown (Clark).

1077. Lebedinskaja, S. J., & Rosenthal, J. S. Beiträge zur Physiologie des Subcortex beim Hunde nach Versuchen mit der Hündin "Angarka." (Contributions to the subcortical physiology of the dog, based on experiments with the bitch "Angarka.") Amsterdam: N. V. Noord-Hollandsche Uitgevers Maatschappij, 1936. Pp. 30.—R. R. Willoughby (Brown).

1078. Lejava, A. [The distribution of nervous trunks, nervous fibers, and nervous end-organs in m. sartorius of a frog.] *Trans. Beritov Inst., Tiflis*, 1936, No. 1, 14-28.—Two methods of study were used: treatment of the entire preparation with osmic acid, and silver-staining according to the method of Bilshovsky modified by Gross. The structure, distribution, and relationship of the nervous trunks, fibers, and end-organs are described and plates presented. The author found that his observations confirmed the conceptions of Beritoff and his collaborators, viz., that the process of excitation is strong in the place where there are end-organs, and conversely is weaker in the nerveless distal and proximal parts of the muscle. English summary.—H. Stevens (Pennsylvania).

1079. Lindsley, D. B. Electrical activity of the brain in children and adults. *Psychol. Bull.*, 1937, 34, 768-769.—Abstract.—R. H. Brown (Clark).

1080. Luco, J. V. The sensitization of inhibited structures by denervation. *Amer. J. Physiol.*, 1937, 120, 179-183.—It is more or less accepted that smooth muscle which is stimulated by adrenin is sensitized by denervation of the sympathetic nerve supply. However, there are conflicting results on smooth muscle which is inhibited by adrenin. The effect of denervation was therefore studied on rabbit intestine and pregnant cat uterus. It was found that degeneration of mesenteric nerves sensitized rabbit intestine to the inhibiting action of adrenin. Denervation of the uterine horn (hypogastric nerve) had a similar effect. It is held that previous conflicting results were due to inadequate controls.—T. W. Forbes (Harvard Bureau for Traffic Research).

1081. Mettler, F. A. The present status of the frontal lobe. *J. gen. Psychol.*, 1937, 17, 203-233.—This review treats the present status of our knowledge of the frontal lobes under the following headings: cytology; activation and inhibition of skeletal muscle; activation and inhibition of vegetative functions. He concludes: "Since Robin first stimulated the cord in a decapitated animal it has been apparent that the exact knowledge of cortical function will have to wait upon the exact knowledge of the final common path. The effector neuron has pyramided upon it a number of suprasegmental mechanisms which increase with terrifying rapidity

as we ascend the neuraxis. The corticospinal is only one (and by no means the most significant) of these. Until we know exactly the capacities of the segmental apparatus, research upon the cortex can never be definitive but will probably always remain one of the most intriguing fields of investigation." There are references to 169 papers.—H. Schlosberg (Brown).

1082. Morrison, R. S., & Rioch, D. McK. The influence of the forebrain on an autonomic reflex. *Amer. J. Physiol.*, 1937, 120, 257-276.—Ablation and stimulation experiments were carried out on cats. Sciatic nerves and nerves from the liver were stimulated afferently to obtain nictitating membrane reflexes. It was found that inhibitory components were obtained from the frontal cortex (area surrounding the presylvian sulcus and extending laterally into the gyrus orbitalis). Inhibitory components were also obtained from an area at the level of the anterior hypothalamus. Excitatory components arose (1) in the medulla in the region of the pons, (2) at the level of the posterior hypothalamus, and (3) from the cortex on both margins and in the depths of the cruciate sulcus. There is evidence that certain hypothalamic mechanisms exert an effect on the sympathetic system as a whole, but it is held that the creation of a concept of "an emotional center" on the basis of such evidence is unjustifiable. All the extant (brain) areas play a role in both complex behavior patterns and discrete reflexes.—T. W. Forbes (Harvard Bureau for Traffic Research).

1083. Narikashvili, S. [On the part played by the brain stem in reflex responses of animals.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 463-478.—Electrical or mechanical stimulation of twigs of the trigeminal of decerebrate frogs caused contraction in hind limbs of crossed extensors and ipsilateral flexors, and in anterior extremities contraction responses resulted when various nerves were stimulated in combination. General inhibition of reflexes results from mechanical or chemical stimulation of different parts of the skin of the head. Stimulation of the central end of the trigeminal inhibits respiratory movements, but when stimulation stops breathing is markedly increased. These results are interpreted on the hypothesis that inhibition is due to electrotonus in the neuropil. This was tested by putting polarizing electrodes on the brain. When the active lead on the brain was the anode, breathing decreased; when the active lead was the cathode, breathing increased at the beginning of current flow. German summary.—C. L. Prosser (Clark).

1084. Olmsted, J. M. D. "Medical classics." *Science*, 1937, 86, 520-521.—The author calls attention to the fact that the second number of volume 1 of *Medical Classics* (a new journal) is devoted to Sir Charles Bell, and contains an 1833 version of his paper "On the Nerves" originally published in 1821. This version is the one which was altered so as to make it appear that Bell had anticipated Magendie in the discovery of the

functions of the dorsal and ventral roots of spinal nerves.—*F. A. Mote, Jr.* (Brown).

1085. Page, I. H. Physiological properties of a central excitatory agent in fluid obtained by occipital puncture of man and animals. *Amer. J. Physiol.*, 1937, 120, 392-400.—Fluid was obtained by occipital puncture in dogs, cats, goats and human patients who had died from various diseases, the animals under anesthesia and the patients immediately after death. This fluid produced an effect on blood pressure, heart rate and nictitating membrane which was eliminated by removal of the central nervous system. The effect showed rapid fatigue and was apparently not dependent on adrenals or carotid sinus. The response therefore appears to be mediated by the central nervous system.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1086. Rohrer, H. I fenomeni elettrici del cervello concomitanti ai processi psichici. (Electrical phenomena in the brain accompanying psychic processes.) *Arch. ital. Psicol.*, 1937, 15, 113-158.—Electro-encephalograms were made under the following conditions: repose, reading, listening to reading, mental computation, luminous stimulation, and listening to a metronome. The apparatus used presents two curves on the same record, one showing waves of low frequency and the other waves with frequencies up to 3000 Hz. Beta waves were found to have frequencies of 1000 Hz or more. During mental work the high frequencies are dominant, but the alpha waves, reduced in amplitude, appear at intervals. The effects of irregular or rhythmic sensory stimuli are various, depending on the previous patterns of the high and low frequency waves. A bibliography, diagram of the apparatus, and sample records are included.—*C. J. Herrick* (Pennsylvania).

1087. Schilf, E. Über adrenergische und cholinergische Nerven. (Adrenergic and cholinergic nerves.) *Klin. Wschr.*, 1936, 15, 962-963.—*R. R. Willoughby* (Brown).

1088. Schriever, H. Die Summation nervöser Erregungen. (The summation of nerve excitations.) *Ergebn. Physiol.*, 1936, 38, 877.—The author includes summation as a general phenomenon, Lapicque's laws, the summation of local excitations of nerves and peripheral receptors, and the summation of conducted nerve excitations. Peripheral and central summation are discussed in detail, as are the problems of intensification through summation (parallel excitation) and modification through summation. The latter raises the question of the influence of higher centers. The general laws of summation are applied to series of impulses which occur naturally. The author attempts to reduce the laws of summation of nerve excitations to the more general laws of the summation of stimuli.—*P. L. Krieger* (Leipzig).

1089. Settlage, P. H. The effect of occipital lesions on visually-guided behavior in the monkey. *Psychol. Bull.*, 1937, 34, 765-766.—Abstract.—*R. H. Brown* (Clark).

1090. Sokolanski, G. G. [Anencephali and their behavior.] *Sovetsk. Psychonevrol.*, 1936, 12, No. 6, 32 ff.—*R. R. Willoughby* (Brown).

1091. Spiegel, E. A., & Scale, N. P. Ocular disturbances associated with experimental lesions of the mesencephalic central gray matter with special reference to vertical ocular movements. *Arch. Ophthalm.*, Chicago, 1937, 18, 614-632.—Experimental lesions, usually made with Clarke's stereotaxic apparatus, were produced in 30 cats in a study of effects of stimulation and destruction in the region of the aqueduct of Sylvius. Stimulation of the central gray matter below the cranial part of the anterior quadrigeminal body caused dilatation or contraction of the pupils according to whether the descending vegetative tract from the hypothalamus or the light reflex pathway was stimulated. Lesions here produced transitory disturbances of the light reflex and frequently gave rise to a tonic contraction of the sphincter. Stimulation below the posterior commissure produced conjugate downward movements; upward movements resulted from stimulation in the posterior optic thalamus or medial tectum of the anterior quadrigeminal body. The system innervating downward movements lies near the pupillary tracts and a little dorsal to the stimulation point for convergence. Various disturbances of vertical movements follow small lesions in the cranial part of the mesencephalon and pretectal region. The tectum is not an indispensable part of the system transmitting impulses for vertical movements from the frontal lobes, and consequently cannot be regarded as the seat of the lesion when paralysis of vertical movements is associated with intact nuclei for the ocular muscles.—*M. R. Stoll* (Mass. Eye & Ear Infirmary).

1092. Thomas, C. B., & Brooks, C. M. The effect of sympathectomy on the vasomotor carotid sinus reflexes of the cat. *Amer. J. Physiol.*, 1937, 120, 195-202.—Sympathetic vasoconstrictors are known to be important in the carotid sinus reflex. This study investigates the question whether separate vasodilators are also involved. The thoracic and abdominal sympathetic chains of cats were removed and after two or three weeks the acute experiment was carried out. Stimuli consisted of abrupt occlusion of carotid arteries and perfusion of the isolated carotid sinus with Ringer under pressure. An artifactual mechanical effect on blood pressure was obtained from the former, which probably accounts for the results reported by Bacq, Brouha and Heymans. With the isolated sinus no change occurred in systemic pressure in sympathectomized cats, while a marked change occurred in normal controls. Therefore the efferent path of the reflex includes the sympathetic chain, and although it is possible that there are some dilators in the sympathetic chain their effect is negligible. Possible non-sympathetic dilators are thus also of negligible effect.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1093. Travis, L. E., & Cofer, C. N. The temporal relationship between brain potentials and certain



neuromuscular rhythms. *J. exp. Psychol.*, 1937, 21, 565-569.—The purpose of this experiment was to determine whether the common neuromuscular rhythm found in tremors is a reverberation of the alpha brain-potential rhythm. Brain potentials and tremors of fingers and toes were recorded with a Westinghouse oscillograph. In all cases significant frequency differences between the alpha and tremor rhythms were found. It is concluded that in so far as tremors are concerned, there are no definitely determinable peripheral reflections of the alpha rhythm.—H. W. Karn (Pittsburgh).

1094. Tskipuridze, L. [The duration of peri-electrotonus.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 253-263.—During polarization of a nerve by galvanic current, regions at a distance (30-40 mm.) from the electrodes change in excitability in directions opposite to the changes close to the electrodes. For example, when excitability increases near the cathode, excitability at a distance decreases. This distant change, or peri-electrotonus, may last from a few minutes to an hour or more, according to the conditions of the experiment. Peri-electrotonus seems to depend upon a different mechanism from that of electrotonus. English summary.—C. L. Prosser (Clark).

1095. Tskipuridze, L. [On electrotonic effects in nerve.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 331-343.—Electrotonic effects on the excitability of nerve can be obtained with direct current at voltages as low as .01-.05 volt. After cessation of polarization with .1 to .2 volt the increased excitability near the anode persisted 4-5 seconds; with 1.5-2 volts it persisted 3-5 minutes. The changes at the cathode and anode depend upon the intensity and duration of polarizing current. The postelectrotonic effect is greatly diminished if the polarizing current is shut off gradually. German summary.—C. L. Prosser (Clark).

1096. Umrath, K. Der Erregungsvorgang bei höheren Pflanzen. (The excitation process in higher plants.) *Ergebn. Biol.*, 1937, 14, 1.—Higher plants, like the nerves and muscles of animals, have their typical forms of excitation processes and conduction. The latter has been studied only in certain sensitive and insectivorous species. In many cases this conduction does not apply to single reactions but to groups. Excitation processes in adjacent cells reinforce each other, probably through a special substance which is formed in the excited cells and affects the others. In this interaction of real conduction and motion of the excitation substance in the intercellular fluid, all intermediary forms between real conduction and simple conveyance occur. The part which both forms of conduction play in producing the final effect varies greatly and is difficult to identify. As is true of animal processes, the distance traveled by the stream of activity, which depends on the speed of reaction and on the conduction rate, ranges from .15 to 10.0 cm.—P. L. Krieger (Leipzig).

1097. Waller, W. H., & Barris, R. W. Pupillary inequality in the cat following experimental lesions

of the occipital cortex. *Amer. J. Physiol.*, 1937, 120, 144-149.—An inequality of the size of pupils was observed in connection with occipital lesions. In order to localize more definitely the origin of this effect, 5 unilateral and 2 bilateral lesions were made in different animals. The unilateral removal of the pupillo-constrictor area at the lower end of the posterior lateral gyrus gave this inequality. The contralateral pupil was the wider.—T. W. Forbes (Harvard Bureau for Traffic Research).

1098. Wiley, L. E. The relationship between the amount of intact cerebral cortical tissue and the critical values of Thurstone's theoretical learning curve. *Psychol. Bull.*, 1937, 34, 775-776.—Abstract.—R. H. Brown (Clark).

1099. Wyss, O. A. M., & Obrador, S. Adequate shape and rate of stimuli in electrical stimulation of the cerebral motor cortex. *Amer. J. Physiol.*, 1937, 120, 42-51.—Cortical stimulation was carried out on 12 monkeys by using silver wires 1-2 mm. apart. A condenser discharge stimulator gave single or double discharges of variable duration and strength. Single motor foci of area 4 reacted with a short twitch. Optimum stimulus duration was 7 to 20 msec. and therefore the cortical origin of the pyramidal motor system showed an excitability slower than that of peripheral paths. On the basis of these durations the ordinary induction shock is too short to be adequate. It was found that with repetitive stimuli the frequency must be kept low for optimum stimulation. A premotor response was obtained with a stimulus frequency of 2 per second from area 6 and consisted of a slow complex response resembling a voluntary motor reaction. It was partly mediated by area 4.—T. W. Forbes (Harvard Bureau for Traffic Research).

1100. Zolotova, N. A., & Zinkin, A. M. [Pathological changes in the peripheral nervous system under the action of electrical currents.] *Sovetsk. Psychonevrol.*, 1936, 12, No. 6, 5 ff.—R. R. Wiloughby (Brown).

[See also abstracts 1004, 1105, 1151, 1152, 1154, 1165, 1166, 1226, 1240, 1273, 1274, 1277, 1282, 1289, 1298, 1303, 1313, 1678.]

## RECEPTIVE AND PERCEPTUAL PROCESSES

1101. Ansbacher, H. Perception of number as affected by monetary value of the objects. *Arch. Psychol.*, N. Y., 1937, No. 215. Pp. 88.—In addition to reporting an experiment, this monograph serves as an introduction to and survey of the work done by Egon Brunswik and his pupils in the extended constancy phenomenon. Groups of stamps were compared as to number with groups of more valuable stamps. Two groups of subjects, 20 Americans and 20 Canadians, each with 16 men and 4 women, were used. Number equations tend to show increased variability when other objects such as color, design and value remain unequal between the two groups. If the number judgment is preceded by a psychophysical judgment, the greater varia-

bility disappears. Monetary value, through familiarity, does influence perception under certain circumstances. An object intended in a preceding activity may influence a subsequent activity, even though that object is not present in the latter.—E. M. Achilles (Columbia).

1102. Anthonisen, H. Einige Untersuchungen über die Beziehung zwischen Sehschärfe und Beleuchtung. (Studies on the relationship between visual acuity and illumination.) *Acta ophthalm., Kbh.*, 1936, 14, 437.—Decline in visual acuity begins immediately with a decrease of 8.25 in measured luminosity. In the different findings of Edmund and Möller—that visual acuity is independent of brightness until this sinks to grade 5—clearness of vision was not measured with sufficient delicacy, and degrees above 6/6 (Snellen) were not considered. The present studies on visual acuity and illumination show that angular images do not occur regularly. The use of Landolt's rings does not, however, permit the determination of very low grades. Expressed in logarithms, there is a direct proportion between the curves of visual acuity and illumination over a very wide field.—P. L. Krieger (Leipzig).

1103. Bair, H. L. Some new conceptions regarding egocentric visual localization. *Arch. Ophthalm., Chicago*, 1937, 18, 415-427.—Visual spatial localization involves perception of objects in relation to the observer's body image, especially the head portion. Objects are always seen as projected in three-dimensional space, not merely as in a certain direction. The projection is dependent upon intended simultaneous binocular fixation, upon innervational data from the extra-ocular musculature, upon correlation of the position of the two visual axes as indicated by these data with a single subjective three-dimensional space, and upon a correlation of innervational data with apparent size, and hence distance, of observed objects. These correlations, which are extended to points not directly fixed, are probably innate, based on phylogenetically acquired cerebral nervous connections. There is no independent subjective localization of points in either eye, but all points in both eyes are correlated with one subjective localization even when one eye is shielded. In the absence of voluntary turning of the eyes, there is a tendency to refer localization to the median longitudinal axis of the body image, which represents the axis of balance. The usual reference to this median plane of objects which are actually displaced a little to one side may be explained by the dominance of one side of the cortex, which causes the eyes to turn slightly toward the contralateral side when intent and innervation suggest that they are fixing a point in the median plane. There is no need to assume a primary center of visual directions.—M. R. Stoll (Mass. Eye & Ear Infirmary).

1104. Bartley, S. H. Some observations on the organization of the retinal response. *Amer. J. Physiol.*, 1937, 120, 184-189.—Talbot's law states that rapid flashes may be seen as continuous steady

light, and Hecht has shown that this can be accounted for by his photochemical system for retinal units. However, a nervous mechanism may also play a part. A phenomenon reported by Grant and Therman and also seen by Fry and Bartley gives evidence for this—namely, that the retinal potential may follow every second flash at fairly high frequencies and that at a somewhat lower frequency the deflection to successive flashes may alternate in size. In the present study the rabbit eye was used with cathode ray and vacuum tube amplification. Flashes were obtained from an open sector disk. It was found that under certain conditions the first flash was longer than succeeding ones. In an increasing frequency series latent and implicit time increased and then apparently decreased again. Actually the latter effect arose from a retinal latency greater than the interval between flashes. These different results are explained as due to neural elements of some part of the optic pathway in the retina capable either of synchronous action or of alternation.—T. W. Forbes (Harvard Bureau for Traffic Research).

1105. Bartley, S. H. The neural determination of critical flicker frequency. *J. exp. Psychol.*, 1937, 21, 678-686.—In experiments with animals and human subjects the light-dark ratio of the flicker cycle was varied in such a way as to throw light on the amount of time taken by the photoreceptor apparatus to institute the nervous part of the response. In the animal studies, latency of response was measured. Similar stimulus conditions were used with the human subjects in which cortical flicker was measured. It was shown how latency of response and the reciprocal of critical flicker frequency were related. The results of the present experiments together with others on the nature of the "on" and "off" discharge from visual sense cells indicate that, in some cases at least, the primary physiological conditions responsible for sensory fusion or uniformity are beyond the retina.—H. W. Karn (Pittsburgh).

1106. Bayliss, L. E., Lythgoe, R. J., & Tansley, K. Some new forms of visual purple found in sea fishes, with a note on the visual cells of origin. *Proc. roy. Soc.*, 1936, B120, No. 816, 95-113.—(*Biol. Abstr.* XI: 16226).

1107. Bean, C. H. The blind have "optical illusions." *Psychol. Bull.*, 1937, 34, 712.—Abstract.—R. H. Brown (Clark).

1108. Bender, M. B., & Alpert, S. Abnormal ocular and pupillary movements following oculomotor paralysis. *Arch. Ophthalm., Chicago*, 1937, 18, 411-414.—The paper reports a case in which a patient, recovered from oculomotor paralysis, showed the following abnormalities of the left eye: on looking down or to the right, the left upper lid was retracted, but there was an apparent ptosis on looking up; the eye rotated slightly inward on looking up or down; the pupil, 6.5 mm. in diameter, failed to respond to light or accommodation, but slowly contracted to 3 mm. on looking down. This indicates an indis-

criminate regeneration of the nerve fibers, with some of the fibers entering empty nerve sheaths and passing to muscles other than those which they originally supplied. Experimental section of the oculomotor nerve in monkeys and chimpanzees has resulted in similar abnormal mass movements after regeneration.—*M. R. Stoll* (Mass. Eye & Ear Infirmary).

1109. **Berens, C.** Stereoscopic cards in colour for children—Series B. *Brit. J. Ophthalm.*, 1937, 21, 659-660.—*R. R. Willoughby* (Brown).

1110. **Beritov, I., & Chichinadze, N.** [On the localization of cortex processes evoked by visual stimulations.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 361-374.—Pigeons were trained to go to a food box only when it was illuminated. In some birds one eye was covered before training; then when the other eye was covered and the trained eye exposed the habit was retained. Pigeons were also trained to distinguish with one eye colored patterns, e.g., yellow triangle, blue circle. When the trained eye was covered this habit was lost, but the bird continued to go to the food box when it was generally illuminated. English summary.—*C. L. Prosser* (Clark).

1111. **Blackburn, R. H.** Perception of movement. *Amer. J. Optom.*, 1937, 14, 365-371.—The author suggests that "sense of movement" be regarded as a fourth retinal sense coördinate with light sense, form sense, and color sense. Movement favors perception of detail if the movement is neither too slow nor too fast. A crude experiment indicates the limits of visibility of an object subtending about a 2-minute angle viewed at 10 inches and moving at speeds calculated in degrees per second in a horizontal plane around an imaginary center between the two eyes. The object was invisible at 50 degrees per sec., just visible at 25, easily visible at 0.14; movement was almost imperceptible at 0.042 and imperceptible at 0.0007 degrees per sec. Since movement is about as easily perceived by the periphery as by the macula, the author concludes that the rods are essential to perception of movement as of form, while the cones mediate perception of detail and color.—*M. R. Stoll* (Mass. Eye & Ear Infirmary).

1112. **Bobbitt, J. M.** Determinants of the threshold of closure in simple geometric forms. *Psychol. Bull.*, 1937, 34, 712-713.—Abstract.—*R. H. Brown* (Clark).

1113. **Bock, H.** Lichtrückeneinstellung und andere lokomotorische Lichtreaktionen bei *Planaria gocephala*. (Retreat from light and other locomotor light reactions in *P. gocephala*.) *Zool. Jb.*, 1936, 56, 501-530.—(*Biol. Abstr.* XI: 16196).

1114. **Bouman, H. D.** Experiments on the Weber-test as used in otology. *Acta brev. neerl. Physiol.*, 1934, 4, 44-46.—(*Biol. Abstr.* XI: 44-46).

1115. **Boyd, W. C., & Boyd, L. G.** Sexual and racial variations in ability to taste phenyl-thio-carbamide, with some data on inheritance. *Ann. Eugen., Camb.*, 1937, 8, 45-51.—The results of a survey in various countries are reported by racial groups and by sex groups. Phenyl-thio-carbamide

and p-ethoxy-phenyl-thio-carbamide were presented to the subjects in different ways and in different concentrations. The results confirm earlier reports of race differences and substantiate the work of Fisher and Brandt as to a sex difference. The existence of a considerable sex difference in tasting ability makes it necessary to reconsider Blakeslee's statement "the inability to taste . . . appears to be inherited as a Mendelian recessive."—*J. W. Dunlap* (Rochester).

1116. **Bridgman, C. S.** The visibility curve of the cat at the absolute threshold. *Psychol. Bull.*, 1937, 34, 792.—Abstract.—*R. H. Brown* (Clark).

1117. **Brown, R. H.** The bright visibility curve of the rabbit. *J. gen. Psychol.*, 1937, 17, 323-337.—"Conditioned respiratory responses to light of varying wave-length and intensity have been secured from the light-adapted rabbit. Intensity was controlled by Wratten neutral-tint filters and a calibrated neutral-tint wedge; wave-length by Wratten monochromatic filters. The relative energy transmitted by each color filter was determined by a thermopile and galvanometer. The bright visibility curve for the rabbit, determined from its threshold responses to various portions of the visible spectrum isolated by 5 color filters, is similar in shape to the dim visibility curve for the rabbit but is shifted by approximately 30 mμ toward the red end of the spectrum. Following Hecht's analysis the similarity in shape is interpreted in terms of the absorption spectra of closely related photosensitive substances. The shift in the rabbit's visibility curve toward the red with increasing illumination is significant as evidence for color vision and a dual photosensitive mechanism."—*H. Schlosberg* (Brown).

1118. **Brunner, O., Baroni, E., & Kleinau, W.** Zur Kenntnis des Sehporpurs. (Toward the knowledge of visual purple.) *Hoppe-Seyl. Z.*, 1935, 236, 257-262.—(*Biol. Abstr.* XI: 16230).

1119. **Bull, H. O.** Studies on conditioned responses in fishes. 7. Temperature perception in teleosts. *J. Mar. biol. Ass. U. K.*, 1936, 21, 1-27.—(*Biol. Abstr.* XI: 16199).

1120. **Cass, E. E.** Divergent strabismus. *Brit. J. Ophthalm.*, 1937, 21, 538-559.—The author describes and tabulates the etiological factors and clinical symptoms of 88 cases of divergent squint. Modes of orthoptic treatment are briefly outlined.—*R. J. Beitel, Jr.* (American Optical Company).

1121. **Chang, M. C.** The hypothesis of approaching and avoiding reaction of the white rat in pattern discrimination. *Sci. Rep. Tsing Hua Univ.*, 1937, Ser. B, 2, No. 3, 169-182.—15 white rats divided into 4 groups were trained in Lashley's jumping apparatus to discriminate a circle from an erect or an inverted triangle of equal area, but the positive and negative stimulus were different for each group. After they attained the criterion of learning (30 consecutive correct discriminations), a square, a vertical rectangle, or a cross was used to replace the negative pattern in one test or the positive in another in order to test the approaching and the avoiding



reaction in pattern discrimination. The results were inconsistent. However, the total results in the testing series and a behavior observation of the animals had led the author to conclude that the rat's learning in discrimination could not be analyzed into an avoiding and approaching reaction.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1122. Corbett, H. V., & Roaf, H. E. The recognition of flashing coloured lights by persons with normal and defective colour vision. *Brit. J. Ophthalmol.*, 1937, 21, 592-596.—By means of a specially constructed lantern it was possible to expose either one large light which could be varied in color and in intensity or two small lights which could be (1) identical in color and intensity, (2) of the same color but of different intensities, (3) similar but of different wave-length composition, (4) entirely different lights. The duration of exposure could be varied. The fixation distance was 20 feet. The results show that the person with defective color vision is more dependent than the normal subject upon (1) the size of the aperture, i.e., the angular aperture of a colored light; (2) the brightness of the lights, and (3) the duration of exposure. "It would seem that there are gradations in the degree of the defect, so that one can recognize many degrees of defective color vision."—R. J. Beitel, Jr. (American Optical Company).

1123. Cossetti, G. La funzione del significato nella percezione degli oggetti. (The function of meaning in the perception of objects.) *Arch. ital. Psicol.*, 1937, 15, 159-248.—Experiments on 10 subjects, involving perception of designs presented by tachistoscope, confirm Gemelli's conclusions about the fundamental importance of meaning in perception. The subjects reproduced the drawings and gave introspective reports; the qualitative aspects of the protocols are discussed at length. Illustrated by 4 plates and 113 drawings.—C. J. Herrick (Pennsylvania).

1124. Culler, E. A., Willmann, J., & Mettler, F. A. Mapping the cochlea. *Amer. J. Physiol.*, 1937, 119, 292.—"Normal limens are first measured in the pig after destruction of one ear. The cochlear wall is then punctured, opposite spiral ligament at point 200 of the map, with a surgical needle, leaving a tiny perforation which soon heals over. . . . As typified by these figures (on two animals), maximal loss always occurs at or very near the charted frequency; the losses however extend over a wide range, all frequencies being impaired. The following general conclusions may safely be inferred: (a) The resonant principle, being now validated by the concurrent testimony of both cochlear response and hearing-tests, seems to be proved beyond any reasonable doubt. (b) These tests provide the first satisfactory evidence of direct agreement between cochlear response and hearing. (c) They indicate that the map previously published is correct."—T. W. Forbes (Harvard Bureau for Traffic Research).

1125. Davis, H., & Stevens, S. S. The measurement of combination tones in the electrical activity of the cochlea. *Amer. J. Physiol.*, 1937, 119, 296.—"Five ears (2 cats and 3 guinea pigs) were stimulated by tones of 700 and 1200 cycles. The resulting cochlear potentials were analyzed by means of an electrical wave analyzer (General Radio) and the magnitudes of the harmonic and combinational components were measured as functions of the intensity of the stimulating tones. With stimulation by either of the primary tones alone at least the first five harmonics could be measured. These harmonics appear after the response to the primary tone departs from linearity. For combination tones the intensities of the primary tones were adjusted to give cochlear responses at a moderate intensity level. The ratio of their intensities was maintained constant while the total intensity was varied." Such stimulation gave 14 combination tones in the ear most thoroughly studied.—T. W. Forbes (Harvard Bureau for Traffic Research).

1126. De Cigna, —. Una prova acustica nella diagnosi di sordità monolaterale. (An acoustical test for the diagnosis of monolateral deafness.) *Liguria med.*, 1936, No. 9, 173-174.—The proposed test, called "a test for reinforced contralateral sound," is easily given and reveals any difference in function between the two ears, although this difference may not be apparent to the subject. When used for medico-legal diagnosis, it furnishes definite data in cases of simulation of monolateral deafness.—L. Canestrelli (Rome).

1127. Enroth, E., & Werner, S. Untersuchung des Lichtsinnes mittels intermittierender Lichtes. (Investigation of light perception by means of intermittent light.) *Acta ophthalmol., Kbh.*, 1937, 15, 320.—A case of congenital hemeralopia and one of retinitis pigmentosa, both having thresholds raised to about the same height, reacted entirely differently to intermittent light during adaptation to darkness, especially in regard to absence of fusion. In a case of myopia with a moderately high threshold, the reaction to intermittent light differed somewhat from the corresponding reaction in normal eyes, in that the fusion frequency during adaptation to light and its decrease in darkness were lower. The flicker method can give differential diagnoses which are unobtainable by the determination of the threshold with Tscherning's glasses.—P. L. Krieger (Leipzig).

1128. Ferree, C. E., & Rand, G. A test chart for the standard rating of visual acuity. *J. gen. Psychol.*, 1937, 17, 291-306.—This paper describes the use of a double-broken circle as a test object in measuring visual acuity. This test object differs from the single-broken (Landolt) ring by having a second gap, placed at 90° from the first break. This object has a number of advantages over the Landolt circle, and especially over capital letters. It permits standardized stimuli, and the subject has the same discrimination to make each time, namely, the location of the breaks. Under conditions of dim illumination it offers a very sensitive test for astigma-

tism. The authors also describe a test chart made up of these figures in varying orientation and size. This chart is superior to the usual Snellen chart in accuracy of construction, number of steps, and versatility.—H. Schlosberg (Brown).

1129. Filatow, D. *Über die Linseninduzierung nach Entfernung des Chordamesoderms bei Rana temporaria*. (Lens formation after removal of the chorda mesoderm in *Rana temporaria*.) *Zool. Jb.*, 58, 1.—After transplantation of the eye nucleus from a frog embryo, whose neural tube has just closed, under the epithelium of an "adult embryo" whose age corresponds to a late gastrula or a very early neurula, a lens develops from the transplant, in spite of the exclusion of the gastrulation and neurulation processes.—P. L. Krieger (Leipzig).

1130. Gérard, W. *Zwei neue optische Phänomene*. (Two new optical phenomena.) *Z. Psychol.*, 1935, 136, 126-136.—One of the optical phenomena is the illusion of simultaneous rotation, in opposite directions, of two peripherally attached points on a disk. Prolonged fixation upon one of these points will cause it to appear to swing free and to describe an elliptical course of its own. The second phenomenon is an illusion of reversible rotation of a disk on a vertical axis. Conditions modifying these illusions are discussed. Four illustrations are given.—G. F. J. Lehner (Brown).

1131. Gilmer, T. E. *The integrating power of the eye for short flashes of light*. *J. opt. Soc. Amer.*, 1937, 27, 386-388.—"The integrating power of the eye has been tested for short flashes of light, ranging in duration from  $10^{-2}$  to  $8 \times 10^{-9}$  sec. The shorter flashes were produced by passing the image of the straight filament of an electric lamp across a narrow slit, the light having been reflected from a mirror mounted on an air-driven turbine. The longer flashes were produced by means of a sector disk. In all cases the number of flashes received by the eye was great enough to avoid flicker and the intensity was well above that required to produce the sensation of vision. It was concluded that the response of the eye depends only upon the total amount of light in the beam and is independent of the length of the light flash. The limit of error was 1.5 percent."—R. J. Beitel, Jr. (American Optical Company).

1132. Grether, W. F. *Red-vision deficiency in cebus monkeys*. *Psychol. Bull.*, 1937, 34, 792-793.—Abstract.—R. H. Brown (Clark).

1133. Gundlach, R. H. *The mechanisms of accommodation in pigeons*. *Psychol. Bull.*, 1937, 34, 790-791.—Abstract.—R. H. Brown (Clark).

1134. Hain, A. M. *Microphthalmia and other eye-defects throughout fourteen generations of albino rats*. *Proc. roy. Soc. Edinb.*, 1936-37, 57, 64-77.—The paper discusses the results from various types of mating. Defectives in eyesight are rarely born to defective parents.—M. Collins (Edinburgh).

1135. Hebb, D. O. *The innate organization of visual activity: I. Perception of figures by rats*

reared in total darkness. *J. genet. Psychol.*, 1937, 51, 101-126.—28 hooded and albino rats were reared to maturity in total darkness. Two series of experiments were carried out, investigating (1) the organization of the visual figure-ground relationship in the first few minutes of visual experience, and (2) transfer of response in the discrimination of geometrical patterns after formal training with Lashley's jumping technique. Open field experiments at the time of the animals' first introduction to light showed (1) evidence of a preference for the darker half of the field, (2) evidence of a preference for a visually differentiated region, and (3) an immediate transfer of response, conditioned to a white object against a black field, to a black object against a white field. Experiments with pattern discriminations revealed the same kind of transfer of response as that found by Lashley with normally reared animals. In the rat the figure-ground organization and the perception of identity in such geometrical patterns as the solid triangle, outline of triangle, and triangle circumscribed by a circle are innately determined. It is argued that the first conditioning is not to the excitation of any specific receptors but to a region of differentiation.—E. Heidbreder (Wellesley).

1136. Hilzensauer, H. *Unser Wahrnehmungssystem beim Ereignisrücklauf*. (Our perceptual system with reversal of the stimulating sequences.) *Z. Psychol.*, 1935, 135, 288-347.—Whereas Stratton's experiment showed the effect of spatial inversion, this experiment is designed to test the effect of temporal inversion (reversal) for both visual and auditory phenomena. For the visual experiment the author presented 35 O's with normal and reversed films. Results show that the "sense" of the film was perceived according to its objective manner of presentation, with no significant difference between informed and uninformed individuals. In many cases chaotic effects (similar to those reported in Stratton's experiment) were present at first, but they disappeared with repetition of the film. In the auditory experiment 10 O's were stimulated by playing records so made that the music was reversed. The reversed selections of music, if familiar, were correctly identified in over 50% of the cases. The emotional effect of reversed selections was in many instances the same as in normal presentation. The significance of these results for the problem of causality is also discussed.—G. F. J. Lehner (Brown).

1137. Holst, E. v. *Die Gleichgewichtsinne der Fische*. (The senses of equilibrium in fish.) *Zool. Anz.*, 1935, 8, 108-114.—There are at least three senses which determine the fish's spatial position, any of which may prevail under certain conditions: static, optic, and tactual. If orientation in space is obtained by means of impulses from the labyrinth to a center of equilibrium and from there to the fins where they elicit certain reflexes, it must be assumed that this hypothetical center receives at least three kinds of impulses. Those originating in the labyrinth, the eye, and most of the body surface, and

probably also those from the air bladder, converge at this point, and the animal's reaction depends on the brain condition and on the kind of impulse present. One cannot speak of simple reflexes in this connection.—P. L. Krieger (Leipzig).

1138. Holway, A. H., & Hurvich, L. M. On the discrimination of minimal differences in weight: I. A theory of differential sensitivity. *J. Psychol.*, 1937, 4, 309-332.—Data for the differential perception of weight from 3 S's for each of 3 different sets of conditions are reported. For each set of conditions, differential sensitivity ( $1/\Delta W$ ) appeared as an inverse function of the standard weight  $W$ , and thus an inverse function of the total amount of excitation. On the other hand, for a given standard weight and for specified variations in the mode of discriminating minimal differences in weight, differential sensitivity was found to vary directly with the total amount of excitation presumably involved in the discriminations. Three attempts to resolve this discrepancy are discussed: (1) For most departments of sense, and within specified limits, the Weber-fraction can be used as a way out of the discrepancy, but at high intensities the discrepancy still exists. (2) Fechner's  $S$  (the 'integral' of  $1/\Delta W$ ) can also be employed, although in special cases it may be a very dubious measure of excitation. (3) A physiological theory of differential sensitivity can be employed to account for the experimental findings. Differential sensitivity can be regarded as a direct measure of the number of elements (number of impulses per unit of time) available for the discrimination of a minimal change in the intensity of stimulation. This theory is strictly coherent with established principles of nerve physiology, and it makes differential sensitivity a measurable capacity of the pre-efferent nervous system.—J. McV. Hunt (Brown).

1139. Honjo, I. Beiträge zur Lichtkompassbewegung der Insekten, insbesondere in Bezug auf zwei Lichtquellen. (Contributions to light-compass movement in insects, especially in relation to two light sources.) *Zool. Jb.*, 1937, 57, 375-416.—(*Biol. Abstr.* XI: 16207).

1140. Horn, H., & Klein, R. Über Tastagnosie und Bewegungsstörung der Finger. (Tactual agnosia and a disturbance of finger movements.) *Nervenarzt*, 1937, 10, 461.—A clinical description of a rare case of tactual agnosia. The patient's finger movements had become clumsy and coarse. Her hand had become incapable of making tactual movements in a purposive manner and of receiving tactual-kinesthetic impressions, and had the appearance of an organ inadequately equipped for this function.—P. L. Krieger (Leipzig).

1141. Howells, T. H. Experimental development of color-tone synesthesia. *Psychol. Bull.*, 1937, 34, 714.—Abstract.—R. H. Brown (Clark).

1142. Hüfner, B. Das Johnstonsche Sinnesorgan der Nepiden. (Johnston's receptor in nepids.) *Zool. Anz.*, 1937, 119, 173.—Nepids (Hemiptera) possess Johnston's receptor, though in a much reduced

form, with all the component parts of the scoloparium, including sensory cells with spindle threads, end cord, axis, and supporting cells. Neither in hydrocores nor in nepids can this be considered a degeneration in the form of a loss of histological elements, especially receptors.—P. L. Krieger (Leipzig).

1143. Imamura, S. On the olfactory and visual senses of *Anthrenus verbasci* L. (Dermestidae). *Bull. imp. Sericult. exp. Sta. Tokyo*, 1936, 9, 1-21.—(*Biol. Abstr.* XI: 16240).

1144. Irwin, C. C. A study of differential pitch sensitivity relative to auditory theory. *J. exp. Psychol.*, 1937, 21, 642-652.—In this investigation pitch thresholds were determined under different experimental conditions: (a) supra-liminal, medium, and loud sensation levels; (b) loudness inequality of the tonal stimuli; (c) time intervals of 1, 10, 30, and 60 seconds between members of paired stimuli of equal loudness; (d) time intervals of 1, 10, and 30 seconds between members of paired stimuli of unequal loudness. Results are as follows: (1) For a frequency level of 256 cycles per second, differential pitch sensitivity remains constant for supra-liminal, medium intensity, and loud tones. (2) For a loudness level of 50-60 decibels, a moderate decrease in intensity produces a relatively great increase in pitch. (3) Pitch sensitivity increases with the lengthening of the time interval between members of the stimuli pair from 1 to 10 seconds. There is a smaller increase in sensitivity for the time intervals of 30 and 60 seconds. (4) The influence of loudness upon pitch becomes more effective for some observers and less effective for others with an increase in the time interval. There is a detailed interpretation of the results in terms of the modernized resonance theory of hearing.—H. W. Karn (Pittsburgh).

1145. Janzen, W. Verschmelzung intermittierender Sinnesreize bei verschiedenen Menschentypen. (Fusion of intermittent sensory stimuli in various types of individuals.) *Z. Psychol.*, 1935, 136, 50-63.—The attempt to use the fusion frequency of visually and tactually presented stimuli as a differentiating criterion between types of individuals shows (1) that the absolute fusion frequency is of no value, and (2) that its variability serves as a differentiating index; this indicates that (a) the  $J_1$ -type is the most constant, (b) the  $J_1$ - $S_1$ -type is the most variable, and (c) the  $J_2$ -type takes a median position. These results, like those of previous workers, are taken to verify the position that Jaensch's divisions represent actual fundamental types. The present results are in agreement with the psychogalvanic measurements on various types made by Fricke.—G. F. J. Lehner (Brown).

1146. Janzen, W. Moment und Umwelttheorie. (The present moment and a theory of the surround.) *Z. Psychol.*, 1935, 136, 64-70.—The author critically reviews the "moment" theories of v. Baer, J. v. Uexküll, and particularly that of G. A. Brecher. The latter gave  $1/8$  sec. as the value for the moment (defined as the time necessary for sensory impressions



to enter consciousness) from the fact that 18 stimuli per second is usually the fusion point for visual, auditory, and tactual stimuli. From this uniformity of sensory behavior Brecher concludes that the moment is of central origin. The present author agrees with this conclusion, and suggests that the particular personality type may be the basis for variations of the moment. The fusion frequency, however, varies both within one sense field and between sense modalities, depending upon the manner of stimulation, intensity, duration, etc.—*G. F. J. Lehner (Brown)*.

1147. Jeffress, L. A. **Anomalous parallax in anaglyphs and stereograms.** *J. gen. Psychol.*, 1937, 17, 389-394.—In viewing an anaglyph or stereogram, lateral movements of the head make the foreground seem to move with the head, instead of in the reverse direction, which occurs with actual objects. The explanation for this is presented with the aid of a number of diagrams. The influence of kinesthetic and other cues in stereoscopic perception is also discussed.—*H. Schlosberg (Brown)*.

1148. Jenkins, W. L. **Studies in thermal sensitivity: I. Adaptation with a series of small circular stimulators.** *J. exp. Psychol.*, 1937, 21, 670-677.—"Adaptation phenomena with a series of small circular stimulators ranging from  $1\frac{1}{4}$  to 10 mm. in diameter, with temperatures of  $10^{\circ}$  and  $44^{\circ}$  C., are reported in this study on the volar surface of the forearm of four male student subjects. The data reveal the possibility that the length of time for complete adaptation may be correlated with either or both of two factors: (1) the initial strength of sensation, itself roughly related to the square root of the area; (2) some dimension of the stimulator, as such, probably the perimeter. Analysis based on subjective reports indicates that these two correlations vary among the four subjects. But circular stimulators provide no objective check, because square root of area and perimeter vary concomitantly. Rectangular stimulators, in which square root of area and perimeter can be varied independently, are suggested as a critical test."—*H. W. Karn (Pittsburgh)*.

1149. Karwowski, T., & Riggs, L. A. **A note on foveal inhibition by continuous exposure to light.** *J. gen. Psychol.*, 1937, 17, 402-404.—In this experiment inhibitory and threshold patches were well within the fovea. According to Heymans' law, the ratio between threshold intensity and that of the inhibiting stimulus should be constant. This was not found to be true.—*H. Schlosberg (Brown)*.

1150. Keller, M. **Ocular dominance and the range of visual apprehension.** *J. exp. Psychol.*, 1937, 21, 545-553.—The aim of this study was to determine the effect of ocular dominance on the relative recall of letters falling on the right and left retinal halves of the two eyes. The following tests were used in determining ocular dominance: (1) manoptoscope, (2) stereoscope, (3) paper-sighting, (4) convergence, and (5) cancellation. Monocular tachistoscopic presentation of material was used to determine the

range of visual apprehension for stimuli falling in the right and left halves of the retinae in each eye. 46 right-handed and 4 left-handed men served as subjects. Results were as follows: (1) Ocular dominance had no effect on: (a) the range of visual apprehension in either eye and (b) the relative amount of recall of letters on either side of the stimulus card. (2) Both right- and left-handed subjects showed a slight tendency to recall more letters in the right visual field than in the left. Since all but 4 of these subjects were right-handed, this suggests that there may be some relationship between handedness and the relative amount of recall in the right and left visual fields. (3) Coefficients of correlation expressing the degree of functional relationship between the two halves of the same eye were not significant.—*H. W. Karn (Pittsburgh)*.

1151. Kemp, E. H., Coppée, G. E., & Robinson, E. H. **Electric responses of the brain stem to unilateral auditory stimulation.** *Amer. J. Physiol.*, 1937, 120, 304-315.—Action potentials were obtained from the trapezoid fibers and lateral lemniscus of cats. A response synchronous with the stimulus was obtained up to 2500 cycles. From the trapezoid fibers evidence was obtained that increased loudness correlated with the activation of more fibers. In the lateral lemniscus a synchronous response was obtained only up to 500 cycles, or with a high intensity stimulus to 1000 cycles. At higher frequencies the electrical wave form appeared asynchronous. Neural thresholds appeared to be reached at a point when just measurable cochlear potentials ( $1$  to  $2 \mu\text{v}$ ) were obtained from the cochlea by optimal placement of electrodes for the frequency in question. By means of click stimuli it was determined that response in the trapezoid fibers occurred 1.3 to 2.0 msec. after those of the eighth nerve, and in the lateral lemniscus 2.3 to 3.1 msec. after. From this it is deduced that the synaptic delay is approximately 0.8 msec. for the cochlear nuclei and also for the superior olivary complex. It was possible to mask the separate components of the click wave form, which is interpreted as evidence for an extension of the place theory.—*T. W. Forbes (Harvard Bureau for Traffic Research)*.

1152. Kemp, E. H., & Robinson, E. H. **Electric response of the brain stem to bilateral auditory stimulation.** *Amer. J. Physiol.*, 1937, 120, 316-322.—The effect of binaural stimulation was studied by means of both clicks and tones. Electrical records were made from right and left round windows and from the lateral lemniscus. Stimulation was by matched sound systems. Threshold, latency and amplitude of homolateral and contralateral components in the lateral lemniscus were the same. At intensities below 10 to 15 decibels above threshold binaural stimuli gave additive effects. There was no masking effect, and time relations of the stimuli were maintained (both for the synchronous condition and when one stimulus led in phase). Results argue against the convergence of tracts from the two ears in the cochlear nuclei of the superior olivary complex.

This is important theoretically for auditory localization. Synchronization was not obtained in the lateral lemniscus above 500 to 750 cycles. This correlates with the findings of Stevens and Sobel that binaural beats occur only below 750 to 800 cycles.—T. W. Forbes (Harvard Bureau for Traffic Research).

1153. Kollarits, J. *Über Lagewahrnehmungsfehler und über einige andere Besonderheiten des Hypnopompiums.* (Disturbances of position sense and some other peculiarities of the hypnopompium.) *Dtsch. Z. Nervenheilk.*, 1937, 144, 277.—In slow awakening, disturbances of position sense affect chiefly the arms, tend to be symmetrical, and are often (not always) accompanied by local sensations. Many of the illusions suggest a kind of phantom limb. In unilateral disturbances, a sensation in the correctly judged extremity may be referred to the falsely perceived limb. Dream illusions may also be combined with genuine disturbances of the position sense. Cutaneous sensations, feelings of muscular tension and touch, caused by the coverings, awake earlier than position sense. The position of the extremities in sleep and awakening is determined by the fact that the passive tonus of the flexors is greater than of the extensors.—P. L. Krieger (Leipzig).

1154. Lashley, K. S. *The mechanism of vision: XIV. Visual perception of distance after injuries to the cerebral cortex, colliculi, or optic thalamus.* *J. genet. Psychol.*, 1937, 51, 189-207.—The accuracy of visual discrimination of distance in rats was tested by the apparatus of Lashley and Russell. This apparatus records the horizontal component of the force exerted by the rat in jumping across a variable gap to a platform which presents only visual cues. The rats were tested before and after operations involving the optic thalamus and colliculi. The greater part of the structures, with the exception of the lateral margins of the colliculi, was explored in bilateral operations. The optic tract of one side was completely interrupted in the region of the optic thalamus in several animals. Although a few animals showed a significant reduction in accuracy of discrimination after operation, it was impossible to correlate their behavior with any characteristic of the lesions. Animals with damage to the same structures and with more severe and widespread injuries made normal scores. The experiments give no evidence that the optic thalamus or colliculi play any part in the visual discrimination of distance.—E. Heidebreder (Wellesley).

1155. Luczyńska, H. *Über den Formensinn und das Gedächtnis für optische Eindrücke bei Eidechsen.* (The form sense and the memory for optic impressions in lizards.) *Bull. int. Acad. Cracovie*, 1935, 8/10, 323-342.—(*Biol. Abstr.* XI: 16212).

1156. Machemer, H. *Beiträge zur Physiologie und Pathologie der Pupille. 2. Über den Ablauf des normalen Lichtreflexes.* (Contributions to the physiology and pathology of the pupil. 2. The course of the normal light reflex.) *Klin. Mbl.*

*Augenheilk.*, 1935, 94, 305-319.—(*Biol. Abstr.* XI: 16246).

1157. McFadden, H. B. *The influence of temperature and solution concentration on reaction time to taste stimuli (sodium chloride).* *J. Psychol.*, 1937, 4, 349-363.—Results of an experiment on reaction time to lingual thermal stimulation showed: that the reaction to cool and cold stimulation is faster than that to warm, and that, experientially, the cool is sharp and definite while warmth is diffuse and builds up slowly; and it is argued that the reaction times and the experiential modes of appearance exactly parallel the physiological processes of contraction and dilation—as demanded by Nafe's vascular theory of temperature. The results of the study of reaction time to the salt taste of NaCl solutions differentiated with respect to solution temperature and concentration showed: that reaction times are longer in the cool than in the warm zone; that the longest times tend to be at 23° C. for all concentrations; that at each temperature an increase in solution concentration results in a decrease in reaction time; that the rate at which reaction time decreases with successive addition of equal increments of concentration is less in the cool than in the warm continuum; that, with the strongest concentrations used, reaction times of trained S's are some 300 ms. longer than the reaction time with supraliminal visual stimuli. Slowness in gustatory reaction time is in contrast to the tongue's differential sensitivity as evidenced in the reaction times.—J. McV. Hunt (Brown).

1158. Merker, E. *Die Abschirmung kurzwelligen Lichtes durch die Augenlinsen der Frösche und ihr Schutzwert.* (The deflection of short-wave light by the optic lenses of the frog and its protective value.) *Zool. Jb.*, 1936, 57, 99-128.—(*Biol. Abstr.* XI: 16248).

1159. Musyev, F. J. *Die Abhängigkeit der Sehschärfe von der Entfernung des Objectes.* (The dependence of visual acuity on the distance of the object.) *Acta ophthal., Kbh.*, 1937, 15, 216-226.—Visual acuity is determined chiefly by the size of the retinal image, i.e., by the angle at which the object is observed. Exceptions to this rule (increase of visual acuity for small and near objects—Aubert-Förster's phenomenon) are due to a faulty method. They are caused by the inconstant size of the angles on the fundus during near and far vision. The contrasting observation of Freeman—decrease of visual acuity for small and near objects—applies only to extremely small distances between eye and object, and is referable to the injurious influence of strong convergence.—P. L. Krieger (Leipzig).

1160. Pal, G. *Different limen for continuous change of lifted weight under different attitudes.* *Indian J. Psychol.*, 1937, 12, 105-150.—The paper continues the introspective reports of several subjects begun in Vol. 11, Nos. 3 and 4, 1936. The introspections are interspersed with explanations and comments by the experimenter.—L. A. Averill (Worcester Teachers College).

1161. Reenpää, Y. Über das quantitative Experiment in der Sinnesphysiologie. (Quantitative experiment in sensory physiology.) *Skand. Arch. Physiol.*, 1936, 73, 90-108.—(*Biol. Abstr.* XI: 16252).

1162. Roelofs, C. O., & Waals, H. G. v. d. Veränderung der haptischen und optischen Lokalisation bei optokinetischer Reizung. (Changes in haptic and optic localization with optokinetic stimulation.) *Z. Psychol.*, 1935, 136, 5-49.—Two subjects, from whom a total of 4800 observations were obtained, were placed within a revolving cylinder 78 cm. high and with a diameter of 117 cm., on the inner wall of which were alternate stripes 23 cm. wide of black and white. A fixating light could be thrown on the revolving cylinder directly in front of the subject. The purpose of the experiment was to determine under what conditions the subject saw the cylinder revolve, or felt himself revolve with respect to the cylinder, or experienced a combination of these two sensations (analogous to the man-on-bridge and stream phenomenon). Results are accounted for in terms of changed tonic oculomotor innervation, as resulting from the stimuli received by the passing stripes. When a fixation point is present, stimuli from it lead to egocentric localization changes of the point. When no fixation point is present, compensating responses to rotation are made on the basis of musculo-sensory stimuli, resulting in disturbances between these and the visual stimuli. The effects of speed of rotation, length of rotation, position of fixation point, etc., in relation to the obtained results are discussed.—G. F. J. Lehner (Brown).

1163. Roske, H. Herabsetzung der Sehleistungen durch schwingungsähnliche Erschütterungen. (Impairment of visual capacity by vibrations.) *Industr. Psychotech.*, 1937, 14, 153-155.—10 subjects were seated one at a time on a small hanging seat which could be made to vibrate at various frequencies. After the vibration period they were shown cards, upon which rings had been drawn, at a distance of 720 cm. and asked which of the rings was the larger. As the frequency of vibration was increased the accuracy of estimation was decreased.—J. C. G. Seidl (Manhattan College).

1164. Sauerbruch, F., & Wenke, H. Wesen und Bedeutung des Schmerzes. (The nature and significance of pain.) Berlin: Junker & Dünhaupt, 1936. Pp. 117. RM. 3.50.—The physiological discussion is concerned with the perception of pain, its physiological basis, and its treatment; the psychological part is concerned with the meaning of pain from the biological, psychological, rational, ethical, religious and cultural points of view.—R. R. Willoughby (Brown).

1165. Smith, K. U. The visual acuity of cats in the absence of the optic projection areas of the cerebral cortex. *Psychol. Bull.*, 1937, 34, 791.—Abstract.—R. H. Brown (Clark).

1166. Smith, K. U. The relation between visual acuity and the optic projection centers in the brain. *Science*, 1937, 86, 564-565.—It is stated that the accepted view today regarding the central neural

basis of visual acuity is that the striate areas of the occipital lobes contain the spatial arrangement of cells necessary for the resolution of small changes in visual detail. Data gathered from experiments on cats with this area extirpated lead the author to conclude that the high degree of visual acuity which the operated animals display in responding to complex patterns moving across the visual field is a matter of spatial summation of impulses in sub-cortical optic centers, for the responses do not occur with single lines or with stripes too widely distributed in the visual field. It is pointed out that the facts concerning the neural relations of visual acuity reported here indicate an unrecognized significance in the complexity and the nature of the projection of retinal fibers upon the pretectal region and the superior colliculus of the midbrain. One figure is given.—F. A. Mote, Jr. (Brown).

1167. Stein-Beling, I. v. Über das Zeitgedächtnis bei Tieren. (Time memory in animals.) *Biol. Rev.*, 1935, 10, 18-41.—(*Biol. Abstr.* XI: 16215).

1168. Stone, L. J. An experimental study of form perception in the thermal senses. *Psychol. Rev.*, 1937, 6, 235-337.—12 experiments failed to reveal objective accuracy in discriminating thermal geometrical form, although crude spatial differentiation indicated some gross patterning. A tentative theory that successive perceptual stages are produced by "experience," because of the combination of vision and the motor processes, should lead to further research.—P. S. de Q. Cabot (Simmons).

1169. Unteutsch, W. Über den Licht- und Schattenreflex des Regenwurms. (Light and shade reflexes of the rain worm.) *Zool. Jb.*, 1937, 51, 69-112.—The rain worm reacts to light and shade by means of two separate systems of receptors. The shade receptors reach their physiological limits in yellow illumination, the light receptors in blue. The duration of the worm's reaction during partial exposure varies with the size of the stimulated area. Simultaneous exposure to light and shade results in a directed, definite reaction. Sensitiveness to shade is equally distributed, while sensitiveness to light is greater at either end than in the middle, being greatest in front and least in the third quarter. No higher centers are concerned in this situation, but each ganglion operates as an independent unit.—P. L. Krieger (Leipzig).

1170. Wallace, S. R., Jr. Studies in binocular interdependence: I. Binocular relations in macular adaptation. *J. gen. Psychol.*, 1937, 17, 307-322.—A survey of the literature shows that "Save for a few isolated and indirect bits of positive data, the interdependence demanded by our present concepts of central function would appear to be lacking in the nervous pathways involved in binocular vision, although the anatomical possibilities for central effects are present." In an attempt to find further evidence, Wallace carried out an extension of an experiment performed by Geldard. By appropriate optical systems a semicircle of light was presented to non-corresponding areas in each eye, in such a



way that they fused to give a complete circle. Geldard's curves for adaptation were verified by using one patch for adaptation and the non-corresponding area of the other eye for a comparison stimulus. But when the comparison patch was presented for more than 5 seconds, one or the other of the patches oscillated continuously in brightness. These qualitative observations are evidence for interdependence of non-corresponding points. Additional experiments are suggested.—*H. Schlosberg (Brown)*.

1171. Warkentin, J. The visual acuity of some vertebrates. *Psychol. Bull.*, 1937, 34, 793.—Abstract.—*R. H. Brown (Clark)*.

1172. Werner, H. Dynamics in binocular depth perception. *Psychol. Monogr.*, 1937, 49, No. 2. Pp. 127.—Assuming that borderline cases are more profitable than the already fully developed images in analyzing binocular depth perception, the author chose to work with the Panum phenomenon, fragmentary images, double images, successive images and depth contrast. His two basic questions were: "Is the fusion of the half images essential for genuine depth perception? If it is not, on what can be based the depth effect of double images?" In general the results of the experiments indicate that "it is not the displacement as such, but the process of displacement, which appears to be the decisive factor in depth perception." The appendix contains a general hypothesis to explain the depth phenomenon.—*K. F. Muenzinger (Colorado)*.

1173. Weyrauch, W. Untersuchungen und Gedanken zur Orientierung von Arthropoden. V. Über die Orientierung nach dunklen Flächen. (Investigations and reflections on the orientation of arthropods. V. Orientation to dark surfaces.) *Zool. Anz.*, 1936, 113, 115-125.—(*Biol. Abstr.* XI: 16221).

1174. Wheeler, W. M., MacCoy, C. V., Griscom, L., Allen, G. M., & Coolidge, H. J., Jr. Observations on the behavior of animals during the total solar eclipse of August 31, 1932. *Proc. Amer. Acad. Arts Sci.*, 1935, 70, 31-70.—(*Biol. Abstr.* XI: 16222).

1175. Wiegand, K. Stroboskopische Versuche mit drei geradlinig angeordneten Lichtreizen. (Stroboscopic studies with three light stimuli arranged in a straight line.) Bückeburg: Prinz, 1935. Pp. 43.—*R. R. Willoughby (Brown)*.

1176. Wilde, K. Figur und Fläche in Wettstreit. (Figure and surface in [retinal] rivalry.) *Psychol. Forsch.*, 1937, 22, 26-58.—This investigation follows from the idea that the study of retinal rivalry may furnish criteria for distinguishing the relative importance of peripheral and central factors in visual perception. The "strength" of a figure is equated to the relative time in which it is predominant in the rivalry situation. The most important findings are: (1) In rivalry between a figure and an empty surface the figure predominates. This superiority depends on the relation between fixation point and figure in a mathematically exact fashion. (2) In rivalry between two figures individual differences are found.

(3) The "strength" of the figure depends on length of contour, but is independent of surface extent and inner contours. (4) The strength of the figure also depends on Gestalt factors and direction.—*J. F. Brown (Kansas)*.

1177. Zietz, K. Das Problem der "Synästhesie" und die Frage des "disintegrierten" Typus. (The problem of synesthesia and the question of the disintegrated type.) *Z. Psychol.*, 1935, 135, 348-401.—By means of experimental-diagnostic methods (as devised by Jaensch and his co-workers) four persons of the pure D-type were selected for investigations on synesthetic effects. Results, indicating a functional connection between visual and acoustic stimuli, are interpreted as substantiating a genetic basis for synesthetic tendencies, and establishing that disintegration (in the D-type) of function occurs only in "higher" mental activity, leaving intact the "lower" level. In the light of these results the author concludes in favor of the genetic nature of "integration-typology."—*G. F. J. Lehner (Brown)*.

1178. Zimmermann, H. E. Über Erfolge der funktionellen Schielbehandlung mit Beseitigung der Amblyopie und Wiederherstellung des binokularen Sehaktes unter Anwendung von Prismenbrillen. (The results of treatment of functional squint, with removal of amblyopia and restoration of binocular vision, by the application of prism spectacles.) Königsberg: Raabe, 1936. Pp. 23.—*R. R. Willoughby (Brown)*.

[See also abstracts 1062, 1068, 1089, 1091, 1097, 1180, 1183, 1185, 1189, 1191, 1226, 1240, 1245, 1249, 1265, 1275, 1277, 1281, 1284, 1304, 1314, 1322, 1390, 1454, 1511, 1553, 1692.]

## LEARNING, CONDITIONING, INTELLIGENCE

(incl. Attention, Thought)

1179. Anochin, P., & Straj, E. A study of the dynamics of cortical nerve function: VI. Characteristics of the receptive function of the cerebral cortex following the conditioned stimulus. *J. gen. Psychol.*, 1937, 51, 3-16.—The interrelationships between conditioned and unconditioned reactions in dogs were studied by an especially designed apparatus, in which motor and secretory reactions were automatically recorded when the animal was placed in a stand between two plates. Any of the conditioned stimuli could be connected with either side of the stand. It was therefore possible to study simultaneously the secretory effect of any given stimulus and the active motor choice of one or the other side. The experiments led to the following conclusions: (1) A conditioned stimulus on the right side, given during the action of the unconditioned stimulus on the left side, may interrupt the course of the unconditioned reaction and provoke a motor-conditioned reaction. (2) The possibility of a conditioned motor reaction during the action of the unconditioned stimulus indicates that the latter does not exercise an inhibitory action on the cortex of the large hemi-

spheres. (3) The indifferent stimulus given three seconds after the beginning of action of the conditioned stimulus may become a conditioned stimulus for feeding on the opposite side of the stand. (4) The central nervous system is capable of realizing a very complicated positive associative activity at the time of action of the unconditioned stimulus, and manifests an adaptability to the changing conditions of the experiment.—*E. Heidbreder* (Wellesley).

1180. Baker, L. E. A comparison of supra- and subliminal auditory stimuli in the conditioning of the pupillary response. *Psychol. Bull.*, 1937, 34, 771-772.—Abstract.—*R. H. Brown* (Clark).

1181. Bartel, H. Über die Abhängigkeit spontaner Reproduktionen von Feldbedingungen. (On the dependence of spontaneous reproductions on field conditions.) *Psychol. Forsch.*, 1937, 22, 1-25.—This work follows that of Köhler and v. Restorff on spontaneous reproduction. Association between an event and a related trace is strongly influenced by even slight changes in the structure of the separating field. Similar processes which follow immediately on the setting-up of a trace make the association more difficult in proportion to their number. Similar processes given immediately before the event may have the opposite effect. The results are to be understood from Gestalt theory. The two most important factors are those of similarity and nearness.—*J. F. Brown* (Kansas).

1182. Beburishvili, N., & Chichinadze, N. [On the question of establishment of individual behavior in frogs.] *Trans. Beritov Inst., Tiflis*, 1936, No. 1, 127-137.—The possibility of the establishment of individual behavior in frogs was studied. The experiments were performed in a box which was divided into two equal compartments by a partition having an opening through which the frog could pass freely from one compartment to the other. For provocation of defensive behavior electric stimulation was used, and was applied until the frog went from one compartment to the other. The electric light over the box was turned on before stimulation and was turned off when the frog reached the other compartment. It was found that the frog moves quite spontaneously from one compartment to the other in either light or dark intervals; that lighting the box is not a necessary condition for the frog's movement from the lighted compartment to the dark one; that a decrease of the latent period of this behavior was not observed; that the number of frogs shifting and the duration of the latent period depend on the frog's seeing the door opening; and that the observed behavior of the frogs does not become individual. This changing from lighted to obscure surroundings should be considered as inborn defensive behavior. (English summary).—*H. Stevens* (Pennsylvania).

1183. Beritov, I. [Remarks on the work of A. Bregadze and S. Tarugov, "The individual reaction to a complex of tone stimuli in rabbits."] *Trans. Beritov Inst., Tiflis*, 1937, No. 3, 449-462.—Bregadze and Tarugov maintain that the response to a sound complex is reflex in nature and depends upon tem-

porary cortical connections. This author, however, believes that it is not reflex but a psycho-nervous process. Such a reaction can be established by one stimulation, e.g., once fed from a particular dish, a dog has a favorable reaction toward this dish. This is not a reflex phenomenon, nor is the response when the animal sees only part of the stimulus. The psycho-nervous reaction continues when external and internal conditions are changed; it calls the whole body into action. The ability of such a response to change depends upon its importance for the life of the dog. Psycho-nervous activity controls reflex activity in the dog. Extinction of one component also spreads to the other components of the complex of tones in the rabbit, but not in the dog. This is not by a change in threshold or a broken connection, but because of projection of lack of food by the psycho-nervous process. German summary.—*C. L. Prosser* (Clark).

1184. Beritov, I., & Akhmeteli, M. [Study of combination light stimulation in pigeons.] *Trans. Beritov Inst., Tiflis*, 1936, No. 1, 61-76.—The effects on three pigeons of combination light stimulation were studied by means of the formation of individual food reactions. Combination of five light figures was used as an individual signal, and was given from one end of a table. When the light stimulation was given at one end and the food at the other end, the "going to the feeder" reaction was reached on the 19th trial. The individual reaction established in this way was characterized by a long latent period and poor stability. When the individual stimulation and food were given at the same end of the table, the same reaction developed much faster and was characterized by a short latent period and greater stability. The separate light components gave no reaction, but the combination of two and more components caused reaction; i.e., there is differentiation of the components of the light combination. These observations sustain the results of similar experiments with dogs by Beritov. English summary.—*H. Stevens* (Pennsylvania).

1185. Beritov, I., & Akhmeteli, M. [The role of the outward appearance of food in the individual behavior of pigeons.] *Trans. Beritov Inst., Tiflis*, 1937, No. 3, 375-396.—A pigeon normally selects the nearest of several piles of grain and pecks at the biggest of several piles first. In these experiments pigeons were trained, by preventing the bird from taking food from the larger pile, to go to the smaller of two piles, viz., to select a pile of three corn grains instead of six. If the three grains were not piled together, the pigeon often did not peck for several seconds. The training to select three grains instead of six was transferred to pieces of bread and to wheat grains. The form of the pile is, therefore, more important than the quality, number, or size of the grains. English summary.—*C. L. Prosser* (Clark).

1186. Bills, A. G., & Stauffacher, J. C. The influence of voluntarily induced tension on rational problem solving. *J. Psychol.*, 1937, 4, 261-271.—Performances on problems of arithmetical reasoning and of determining significant clues in detectograms

were compared as between normal work and under voluntarily produced tension (pulling on handles which lifted weights: men 10 pounds with each hand, women 6 pounds). This tension improved the average time of solving arithmetic problems, made no difference as to errors, and benefited good performers somewhat more than poor performers. When the group working on detectograms is taken as a whole, tension had no significant effect on either time or errors, but tended to benefit the poor performers and to affect the good performers detrimentally in both time and errors. Tension appeared to be beneficial for the easier problems and detrimental for the harder ones. Whether tension is beneficial to performance depends upon the nature of the problem, its difficulty, the criterion measured, the ability of the subjects, and the interrelation of these factors. "If any generalization can be made, it is that the beneficial effect of tension decreases as the complexity of the problem increases."—*J. McV. Hunt (Brown)*.

1187. Bradner, H. A new "learner." *J. gen. Psychol.*, 1937, 17, 414-419.—A small cart is steered by a relay-controlled third wheel. It will learn to negotiate a single-T maze through trial and error. Contact with the walls of the alley controls "exteroceptor" switches, which vary the current in the relay circuits by means of heat-actuated variable resistances. Thus "forgetting" is due to cooling of the resistance cells. Further complications are introduced through "inhibitory" stimuli (chance switches). The device works on the goal-gradient principle. Learning curves are presented.—*H. Schlosberg (Brown)*.

1188. Bregadze, A. N. [The individual reaction to the ordinal "count" in dogs.] *Trans. Beritov Inst., Tiflis*, 1936, No. 1, 77-108.—After some difficulty, one dog was conditioned to the tone G (775 v./s.) so that on the even numbered tones it hardly moved, while the sounding of every other tone caused the dog to go immediately to the food box. If the order of the tone G is not reinforced successively with food, the dog's movement towards the food box is evoked by the uneven as well as by the even order of the tone. Eventually the reaction to sounds becomes extinct for both orders, but if after extinction the sound is reinforced with food the reaction to order becomes established once more; i.e., the dog reacts only after the second sound is heard. The author concludes that chemical stimulation of the oral cavity and proprioceptive stimulation of muscles during eating become, following tone G, either a negative signal to "go over to the food box," or a signal "not to go over to the food box." English summary.—*H. Stevens (Pennsylvania)*.

1189. Bregadze, A. N. [Elaboration of individual reactions to the complex of successive musical tones in dogs.] *Trans. Beritov Inst., Tiflis*, 1937, No. 3, 397-414.—Dogs were trained to respond to a complex of three tones in order. At first they also responded to each component, but later the components failed to elicit a response and even influenced nega-

tively the reaction to the complex. Thus the dogs learned in time to react to a complex of tones as to one stimulation. The effective agent is not a pure correlation of tones but the complex of sounds in a given order. English summary.—*C. L. Prosser (Clark)*.

1190. Bregadze, A. N. [The individual reaction to the complicated ordinal "count" in dogs.] *Trans. Beritov Inst., Tiflis*, 1937, No. 3, 415-430.—Food was combined with a tone (775 v.p.s.) for four trials, and then the tone was presented without food for four trials. The aim was to determine whether the dog could count four. After 91 days the dog did not go to the food box from the fifth trial on, and the habit was considered established. It was unsteady, however. If food was given with the second but not the first trial, then the dog stopped going at the sixth rather than the fifth. It is concluded that the chief factor in this stimulation series is the moment of eating. English summary.—*C. L. Prosser (Clark)*.

1191. Bregadze, A. N., & Tarugov, S. [On the individual reaction to a complex of tone stimuli in rabbits.] *Trans. Beritov Inst., Tiflis*, 1937, No. 3, 431-447.—A feeding reaction was conditioned in rabbits to a complex of several tones in series and a negative reaction to the individual components, and vice versa. Much more time was required to establish the habit than with dogs, and once established it lasted longer and was more difficult to extinguish. The reaction varied more according to the state of excitement of the animal than with dogs. When extinction to one component tone was carried out, the response was also extinguished to the others. It was possible to condition the rabbit to go to one eating place with the complex and to another place with the components. The development of the reaction depends upon the development of temporary connections in the cortex. German summary.—*C. L. Prosser (Clark)*.

1192. Brown, R. H. Stability of conditioning and sexual dominance in the rabbit. *Science*, 1937, 86, 520.—The author had occasion to work with a group of 6 male rabbits presenting characteristic homosexual practices over a period of 2 years. These animals were conditioned to give a breathing response to light. It was found that if the rabbits were ranked in order of sexual dominance there was a correlation between the dominance and the stability and magnitude of the conditioned response, and that when a reversal of sexual dominance occurred in two or three cases there was a corresponding change in the consistency of the conditioned response.—*F. A. Mole, Jr. (Brown)*.

1193. Brown, W., & Buel, J. Response tendencies and maze patterns as determiners of choices in a human maze. *Psychol. Bull.*, 1937, 34, 787-788.—Abstract.—*R. H. Brown (Clark)*.

1194. Carlson, H. B. Factor analysis of memory ability. *J. exp. Psychol.*, 1937, 21, 477-492.—This study is an attempt to analyze memory ability with the use of the Thurstone multiple-factor technique. Experimental conditions were arranged in order to



test the truth of two common assumptions: (1) that memory ability can be divided into rote and logical memory, and (2) that rote memory can further be divided into a visual and a vocal factor. The data were factored to eight dimensions by the centroid method. Factor I is tentatively termed a general recognition memory factor for the words used in the present study. The simplest interpretation of factors II, III, and IV is that they are three different visual factors. If this is correct the experiment demonstrates that there are a number of visual memory factors instead of the single visual factor postulated. Factor VI appears to be a logical factor involving learning to use the meaning of a word even though the meaning is not explicitly given, and from this it would appear that logical memory is itself not unique, but rather complex. No interpretation making psychological sense could be made for factors V, VII, and VIII. It is probable that the data did not justify the number of factors extracted from them.—H. W. Karn (Pittsburgh).

1195. Chase, W. P. An analysis of ideational maze learning. *Psychol. Bull.*, 1937, 34, 789.—Abstract.—R. H. Brown (Clark).

1196. Chou, H. C. [Experiments on the relative efficiency of learning complicated (original) and simplified Chinese characters.] *Educ. Rev.* (Chinese), 1936, 26, No. 1, 99-106.—34 elementary-school pupils were selected from grades II to IV inclusive and divided into two paired groups. Each pair was composed of pupils who were not familiar with the same 40 "complicated (original) characters" and the corresponding 40 "simplified characters" out of a list of 300 Chinese characters. Each set of 40 characters was printed in a separate sheet. The results show that both in immediate and more permanent memory (1-week interval), "complicated characters" are superior to, i.e. better recognized than, "simplified characters," with experimental coefficients of .47 and .65 respectively. Speaking in terms of probability, the former would be superior to the latter 90 and 95 out of 100 times respectively. In other words, so far as recognition of characters is concerned, complicated Chinese characters are not inferior to but are more easily learned than simplified ones. In (immediate) reproduction, simplified characters are superior to, i.e. better recalled or retained than, complicated ones; the experimental coefficient is .86. In terms of probability, the former would be superior to the latter in 99 out of 100 times in recall. In other words, simplified Chinese characters are reproduced (writing by recall) with greater speed and accuracy than complicated ones.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1197. Cowles, J. T. Comparisons of food-tokens with other incentives for learning by chimpanzee. *Psychol. Bull.*, 1937, 34, 709.—Abstract.—R. H. Brown (Clark).

1198. Crawford, M. P., & Spence, K. W. Imitation: observational learning of discrimination problems by chimpanzees. *Psychol. Bull.*, 1937, 34, 711.—Abstract.—R. H. Brown (Clark).

1199. Curran, F. J., & Schilder, P. Experiments in repetition and recall. *J. genet. Psychol.*, 1937, 51, 163-187.—The authors report a new method for studying memory. They read a short story to their subjects and ordered them to repeat the story again and again until they were exhausted and refused to continue. 26 types of change were studied through the successive repetitions. The changes from repetition to repetition do not consist merely in the fading of the trace, but indicate an active process of organization of traces in which the total personality and its problems are involved. An organization, once developed, has a tendency to persist, forming a relatively stable pattern. After this occurrence individuals become unwilling to go on. In cases of organic disturbances of the memory function, the processes involved in the organization of the trace are accelerated and exaggerated. They are less controlled by the trace as such and are more influenced by the individual attitude of the patient. These disturbances cannot be understood merely as defects in retention and in old memories.—E. Heibredner (Wellesley).

1200. Doré, L. R., & Hilgard, E. R. Spaced practice and the maturation hypothesis. *J. Psychol.*, 1937, 4, 245-259.—The usually demonstrated advantages of distributed practice over massed practice were shown by having 4 groups of 25 S's practice individually on the Koerth rotor for varying amounts of time within one 43-minute period. Groups A, B, and C practiced for 1-minute periods and rested 11, 3, and 1 minutes respectively, while group D practiced 3 minutes and rested 1-minute periods. Within an equal number of trials gains were inversely related to the degree of massed practice. These results were examined in reference to the stimulus-maturation hypothesis which assumes that there is growth between practice periods, which in turn is related to the stimulation provided within the practice periods, thus indicating that scores should be a function of time rather than of the amount of practice. The performance curves of groups A, B, and C looked very much alike when plotted by time elapsed instead of by trials, and thus agreed with this hypothesis. This agreement was altered, however, when all groups were practiced in a final trial with fatigue effects approximately equated. Then scores fell in the order of the amount of practice. Likewise, decrements within the continuous 3-minute periods of practice were found in the performances of group D. Since these decrements within continuous work are recovered from with time, gains between trials need not be attributed to growth processes. Such processes need be assumed only if well-known processes describing increments and decrements between trials are found to be quantitatively insufficient.—J. McV. Hunt (Brown).

1201. Ellison, D. G. The acquisition of a token-reward habit in dogs. *J. comp. Psychol.*, 1937, 24, 505-522.—Dogs learned to obtain food from a vending machine by dropping rubber balls into an opening. The balls "acquired a capacity to evoke striving behavior which they did not have before

their use in acquiring food." The distance that the ball was carried was increased in successive trials and "the increment in distance per trial showed a fairly constant ratio to the distance which the ball was carried from the point of presentation to the vending machine." Repeated training at a constant distance increased this increment. Rotation of the vending machine during early stages of learning led to a breakdown of the habit. Later, this was followed only by a slight decrease in percentage of success. It is suggested that Hull's habit-family-hierarchy hypothesis accounts for features of the learning process. Bibliography.—*N. L. Munn* (Peabody).

1202. Fairlie, C. W. The effect of shock at the "moment of choice" on the formation of a visual discrimination habit. *J. exp. Psychol.*, 1937, 21, 662-669.—"Two groups of albino rats, shock-right and shock-wrong groups, were trained in a black-white discrimination, shock being administered at the 'moment of choice.' Learning in both groups was retarded. This retardation was significantly greater in the shock-right group. The far greater prevalence of position habits in the shock-right group seems to be an important factor in creating this difference."—*H. W. Karn* (Pittsburgh).

1203. Freeman, F. N., & Flory, C. D. Growth in intellectual ability as measured by repeated tests. *Monogr. Soc. Res. Child Develpm.*, 1937, 2, No. 2. Pp. xi + 116.—The aim of this study was to measure the intellectual growth of children and youths by testing the same children yearly with the same battery of tests. The study was carried on over a ten-year period. Over half of the 469 subjects received five or more successive examinations. The tests employed were: vocabulary, analogies, completion, and opposites. Composite curves of growth show (1) a slight acceleration in pre-adolescence, (2) a moderate decline in rate of growth beginning in early adolescence, and (3) a continuation with very little further decline in rate to 19 or 20 years. The terminus of growth could not be determined, since an increase in ability was manifested up to and including the highest age studied (19 years). Individual differences with respect to the rate and form of the growth curve were very large. Analysis of changes in variability showed that the same individuals, when tested year after year, became somewhat more alike instead of less alike, as has been indicated by previous studies. The duller children exhibited an almost constant rate of growth throughout the entire period, whereas the brighter children showed an acceleration of rate in later childhood which tended to slow down in middle and later adolescence. —*M. Keller* (Brown).

1204. Freeman, G. L. Studies in the psychophysiology of transfer. I. The problem of identical elements. *J. exp. Psychol.*, 1937, 21, 521-532.—The purpose of this study was to retest the identity theory with psycho-physiological "elements" rather than logical ones. It was assumed that identity between two tasks might involve either (1) the same receptors, (2) the same effectors, or (3) the same

central adjustor pattern. This led the author to select typewriting as the test performance and to vary the identity of transfer tasks in regard to each of the three fundamental divisions of the neuromuscular action sequence. The general plan of the experiment was to alternate a standard task with itself and with others involving a lesser degree of identity, under the assumption that the greater the similarity of tasks the greater would be the transfer effect. By using subjects well advanced in typing and by properly counterbalancing conditions an attempt was made to minimize positive transfer effects and to develop decrement in the shift from standard to comparison task. Subjects were motivated by competition for a high score, and when one factor such as effector identity was being varied, the other parts of the reaction arc were held constant. In all cases the results were negative. It is concluded that transfer is not caused by identity of elements in any part of the reaction arc.—*H. W. Karn* (Pittsburgh).

1205. Frolov, Y. P. Pavlov and his school: the theory of conditioned reflexes. (Trans. by C. P. Dutt.) New York: Oxford Univ. Press, 1937. Pp. 291. \$4.00.—The author presents a relatively non-technical and historical account of Pavlov's work. Of the 8 chapters, one is devoted to each of the following topics: Sechenov and the behaviorists; sleep and allied states; comparative physiology of conditioned reflexes; and the theory of experimental neuroses. Photographs of Pavlov in 1912, 1924, and 1935 are included. No bibliography. (Publication postponed.)—*W. S. Hunter* (Brown).

1206. Gilliland, A. R. The law of effect in learning. *J. comp. Psychol.*, 1937, 24, 495-504.—White rats were confronted with four equally "inviting" and similar tunnels of a simple maze. The tunnels appeared two on each side of a runway. Food was given in only a certain tunnel for each rat. This tunnel was soon selected by most animals. In another experiment, rats were forced into the tunnels in a definite order. Food was given in only one. Both recency and frequency factors were controlled. After the forced practice series had been completed, the animals were allowed to go to any of the four tunnels. In a group of 24 animals given five unrestricted trials each, the reward alley was selected 71 times, which is more than twice the chance expectancy. Similar results were obtained with another group of 14 rats. The author's aim was "to test whether success or reward, other things being equal, have any effect on the repetition of an act." He says that these results "re-emphasize the fact that they do have an effect." Bibliography.—*N. L. Munn* (Peabody).

1207. Gurnee, H. The effect of electric shock for right and wrong responses on maze learning in human subjects. *Psychol. Bull.*, 1937, 34, 786.—Abstract.—*R. H. Brown* (Clark).

1208. Guthrie, E. R., & Horton, G. P. A study of the cat in the puzzle-box. *Psychol. Bull.*, 1937, 34, 774.—Abstract.—*R. H. Brown* (Clark).

1209. Harlow, H. F. The effect of curare on the learning process. *Psychol. Bull.*, 1937, 34, 744.—Abstract.—R. H. Brown (Clark).

1210. Heron, W. T., & Skinner, B. F. The effects of certain drugs and hormones on conditioning and extinction. *Psychol. Bull.*, 1937, 34, 741-742.—Abstract.—R. H. Brown (Clark).

1211. Herrick, V. E. The development of attitudes toward success and failure in rhesus monkeys. *Psychol. Bull.*, 1937, 34, 722-723.—Abstract.—R. H. Brown (Clark).

1212. Heymann, F. K. Experimentell-strukturpsychologische Untersuchungen über Denkformen besonderer Denktypen mit besondere Berücksichtigung der anthroposophischer Denkformen. (Experimental and structure-psychology investigations on thought forms of special types, with particular attention to anthroposophic thought forms.) Düsseldorf: Nolte, 1933. Pp. 51.—R. R. Willoughby (Brown).

1213. Hilgard, E. R. The relative permanence of conditioned excitation and inhibition in man. *Psychol. Bull.*, 1937, 34, 771-772.—Abstract.—R. H. Brown (Clark).

1214. Honzik, C. H., & Tolman, E. C. An experimental study of the effect of punishment on discrimination learning. *Psychol. Bull.*, 1937, 34, 775.—Abstract.—R. H. Brown (Clark).

1215. Hsiao, H. H. [An experimental study of sensorimotor learning.] *Educ. Rev. (Chinese)*, 1936, 26, No. 9, 59-66.—Three experiments were performed on sensorimotor learning by means of a specially made apparatus for measuring the ability of bimanual coordination, using both adults and children as subjects. The results show that (1) the difficulty of motion is directly controlled by the complexity of perception, i.e., the "time-error score"  $\left(\frac{\text{time}}{20} + \frac{\text{error}}{2}\right)$  is in direct proportion to the complexity of perception. (2) In a very short period of training, attention on speed results in a decrease in time required for the motion, but may not have a detrimental effect on accuracy. (3) The transfer of training from "smaller" to "larger" motion is greater in accuracy, while that from "larger" to "smaller" motion is greater in speed. In conclusion, the author points out that the results here reported are obtained from experiments on short times and that whether experiments on longer times will yield the same results still awaits answer.—C. F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1216. Hunter, W. S. Muscle potentials and conditioning in the rat. *J. exp. Psychol.*, 1937, 21, 611-624.—In this study the author sought information on the activity of individual motor units during the process of conditioning and extinguishing a leg response to light stimulation. Electric recording with concentric needle electrodes made possible the analysis of records in terms of the responses of individual motoneurons. "Conditioning may bring

into activity individual units not before excited by the light or it may serve to increase the frequency of spontaneously firing units, a result which was not secured without conditioning. In the present experiments the latency with which these effects are produced tend to decrease as conditioning progresses. The records clearly show selective conditioning of the motor units in that near and distant receptors are differently affected. . . . Extinction presents a picture the reverse of that in conditioning. Individual units drop out, the conditioned speeding up of spontaneous units fails, and the latency of responses increases. Finally when the light no longer arouses a response, pinching the animal raises the excitability of the nerve centers to such a point that the light will again activate some of the formerly conditioned units and perhaps others as well."—H. W. Karn (Pittsburgh).

1217. Irwin, F. W., & Preston, M. G. Avoidance of repetition of judgments across sense modalities. *J. exp. Psychol.*, 1937, 21, 511-520.—Experimental evidence is presented which shows that judgments on material presented in one sense modality predispose subjects to avoid the repetition of the same category in making judgments on material presented in another modality. This proves that the general tendency to avoid repetition of judgments cannot be attributed to changes in the sensory processes themselves. By requiring the subjects to give alternating comparisons in two modalities, stipulating that the report in the first modality be given in one set of terms and the report in the second modality in a second set of terms, it was further shown that the avoidance tendency was not dependent upon the mechanism involved in the giving of the response words themselves.—H. W. Karn (Pittsburgh).

1218. Irwin, F. W., & Rovner, H. Further study of the method of comparison applied to the problem of memory changes. *J. exp. Psychol.*, 1937, 21, 533-544.—This experiment was performed in order to gain additional information on certain questions left unsettled in an experiment by Irwin and Seidenfeld (*J. exp. Psychol.*, 1937, 20, 363-381). Descriptions by the S's of the visually perceived stimulus figures used in the early experiment were obtained in order to infer the nature of their perceptions of these figures. Data on asymmetries of judgment and on subjective assurance of judgment were also obtained.—H. W. Karn (Pittsburgh).

1219. Jalota, S. S. The influence of practice with a group-test of intelligence in English upon the scores of a similar test in vernacular (Hindi). *Indian J. Psychol.*, 1937, 12, 73-77.—The author finds the practice effect of the English form upon the scores of the vernacular form to be 0.52%, which is adjudged to be "practically negligible." He finds also that the total disadvantage suffered by an average first-year high school student "when he is given simple intelligence tasks in English, as compared with his scores if the same tasks had been set in the vernacular" amounts to 27.81%.—L. A. Averill (Worcester Teachers College).



1220. James, W. T. An experimental study of the defense mechanism in the opossum, with emphasis on natural behavior and its relation to mode of life. *J. genet. Psychol.*, 1937, 51, 95-100.—Experiments on withdrawal, defense and escape reactions of the opossum are reported. In the opossum the leg reaction cannot be conditioned. It is suggested that studies of different animals having peculiar modes of reaction for defense and escape (e.g., marsupials, reptiles) might indicate different neurological organizations which determine the various modes of life. It is especially emphasized that interpretation of conditioned reactions must take into account the nervous development of the animal, its anatomical construction, and the environmental situation.—E. Heidbreder (Wellesley).

1221. Kellogg, W. N. Bilateral transfer of conditioning in dogs. Preliminary study. *Psychol. Bull.*, 1937, 34, 743.—Abstract.—R. H. Brown (Clark).

1222. Kephart, N. C., & Houtchens, H. M. The effect of the stimulus word used upon scores in the association-motor test. *Amer. J. Psychiat.*, 1937, 94, 393-399.—50 unselected adolescents were given both the Jung and the Kent-Rosanoff association word lists. Using a polygraph set-up, voluntary and involuntary motor responses as well as the verbal response and reaction time were obtained. No statistically significant differences were obtained between the mean scores on the two lists. It is concluded "that the process of association represents a sample of the amount of mental disturbance rather than a specific conflict suggested by a specific stimulus word, and that the subjects, within the limits of the reliability of the technique and regardless of the word list used, will show a given number of disturbances per 100 words." A slight practice effect was found, but it was too small to be significant.—R. Goldman (Boston Psychopathic Hospital).

1223. Konorski, K., & Miller, S. Further remarks on two types of conditioned reflex. *J. gen. Psychol.*, 1937, 17, 405-407.—An addition to the discussion with Skinner (see XI: 2702, 2718). Certain of Skinner's points are rejected. The cortical processes underlying conditioning are too complex to be based on the notion of "contingency."—H. Schlosberg (Brown).

1224. Liss, E. Emotional and biological factors involved in learning processes. *Amer. J. Orthopsychiat.*, 1937, 7, 483-488.—The author presents learning as a psychobiological phenomenon involving libidinal components, and finds that "the purpose of the learning process is to supply an adequate system of gratifications as substitutes for elementary biological functions and products." The success of this acquisition is "dependent upon the ability of the organism to sublimate the necessary sadism and accompanying guilt feelings involved and evolved in the accomplishment of the task."—E. D. Hunt (Brown).

1225. Loucks, R. B. Humoral conditioning in mammals. *J. Psychol.*, 1937, 4, 295-307.—Evidence for a non-neural order of conditioning in

mammals is examined and considered to be clearly negative. Comparison of ordinary conditioning with conditioning of serological reactions indicates that, although humoral links are involved, it is unnecessary to assume a non-neural mechanism to account for the essential modifications which constitute the conditioning. Known or reasonable nervous mechanisms are described which in cooperation with humoral mechanisms will account for (1) the conditioning of nausea and salivation produced by the injection of morphine to a loud tone, (2) conditional eosinophilia based upon intraperitoneal injections, (3) conditional immunities, and (4) conditional diuretic responses. An attempt to condition to a buzzer the hyperglycemia produced by injecting adrenalin into the blood streams of rabbits and dogs is described. This procedure is considered a near-crucial test for non-neural conditioning, for adrenalin probably causes hyperglycemia by directly inhibiting utilization of carbohydrates in peripheral tissues without eliciting an intermediate central pattern of sensory impulses, which would commonly lead up to an efferent autonomic discharge bringing the end result. This procedure failed; thus the writer concludes that "the crux of the conditioning process is the hooking up of the central excitations evoked by the conditional signal with the central neural impulses constituting the sensory pattern of the unconditional stimulus. Once an association is formed between a conditional signal and the implicit sensory pattern corresponding to the unconditional stimulus, any response that this unconditional stimulus would tend to evoke is thereafter potentially 'at the call of' the conditional signal."—J. McV. Hunt (Brown).

1226. Loucks, R. B. The conditioning of salivary and striped muscle responses to faradization of cortical sensory elements, and the action of sleep upon such mechanisms. *Psychol. Bull.*, 1937, 34, 743-744.—Abstract.—R. H. Brown (Clark).

1227. Maier, N. R. F. The influence of trace-aggregation in problem-solving in rats. *Psychol. Bull.*, 1937, 34, 773-774.—Abstract.—R. H. Brown (Clark).

1228. Marquis, D. G., & Porter, J. M. Differential factors in conditioned voluntary and conditioned involuntary responses. *Psychol. Bull.*, 1937, 34, 772.—Abstract.—R. H. Brown (Clark).

1229. Martino, G., & Alibrandi, A. Analisi di un particolare riflesso condizionato (dell'ammicciamento) nel cane. (Analysis of the conditioned reflex of blinking in the dog.) *Boll. Soc. ital. Biol. sper.*, 1936, 11, 763-764.—The authors established in dogs a unilateral conditioned reflex of blinking after approximately 15 associations with a visual stimulus and 80 associations with a sound stimulus. The associated reaction obtained with the latter stimulus was much quicker, stronger, and more resistant to internal inhibition than with the former. They demonstrate the necessity of the presence of the ordinary, congenital, unconditioned reflexogenic

zone (and the afferent pathway) for the formation of the associated reflex.—*L. Canestrelli* (Rome).

1230. **Melton, A. W.** The individual-to-individual variability of learning scores obtained with materials commonly employed in the study of memory. *Psychol. Bull.*, 1937, **34**, 715.—Abstract.—*R. H. Brown* (Clark).

1231. **Miller, N. E.** Analysis of the form of conflict reactions. *Psychol. Bull.*, 1937, **34**, 720.—Abstract.—*R. H. Brown* (Clark).

1232. **Mowrer, O. H.** Reaction to conflict as a function of past experience. *Psychol. Bull.*, 1937, **34**, 720-721.—Abstract.—*R. H. Brown* (Clark).

1233. **Müller, I.** Zur Analyse der Retentionsstörung durch Häufung. (Toward the analysis of disturbances of retention caused by learning in massed series.) *Psychol. Forsch.*, 1937, **22**, 180-210.—This paper investigates the effect of learning in massed series on retention. The chief results are: (1) Disturbance of retention is demonstrated even when 5 or 10 minutes separate the individual impressions. (2) Series whose individual members represent complex activities seem to have a less disturbing effect on retention than series of simple activities. (3) The disturbance of retention is not due to retroactive inhibition alone.—*J. F. Brown* (Kansas).

1234. **Myers, G. C.** Re-learning after twenty years. *Psychol. Bull.*, 1937, **34**, 732-733.—Abstract.—*R. H. Brown* (Clark).

1235. **Naronak, D.** Intelligence; its nature and measurement. *Indian J. Psychol.*, 1937, **12**, 79-85.—A presentation of the conventional descriptions of intelligence, with some attention to the concepts of Terman, Spearman, Thorndike, and others.—*L. A. Averill* (Worcester Teachers College).

1236. **Newman, W. L.** Individual learning curves obtained from long learning lists. *Psychol. Bull.*, 1937, **34**, 788-789.—Abstract.—*R. H. Brown* (Clark).

1237. **Ortner, A.** Nachweis der Retentionsstörung beim Erkennen. (Proof of disturbance of retention in recognition.) *Psychol. Forsch.*, 1937, **22**, 59-88.—It is well known that recall is affected by the field conditions separating impression and the memory test. This paper demonstrates a similar field effect on recognition. The experiments require the tachistoscopic presentation of previously experienced material under various field conditions. The chief disturbance is caused by giving the original impressions in massed series rather than in isolation. Learning factors are also investigated. The usual superiority of recognition over recall is subjected to theoretical analysis.—*J. F. Brown* (Kansas).

1238. **Pavlov, I. P.** Die Typen der höheren Nerventätigkeit, ihr Zusammenhang mit Neurosen und Psychosen und der physiologische Mechanismus neurotischer und psychotischer Symptome. (The types of higher nervous activity, their connection with neuroses and psychoses, and the physiological mechanism of neurotic and psychotic symptoms.)

Moscow, Leningrad: Staatsverl. f. Biol. u. Med. Lit., 1935. Pp. 7.—*R. R. Willoughby* (Brown).

1239. **Pechstein, L. A., & Reynolds, W. R.** The effect of tobacco smoke on the growth and learning behavior of the albino rat and its progeny. *J. comp. Psychol.*, 1937, **24**, 459-469.—Groups of from 9 to 35 rats were trained on a maze. Learning was measured in terms of time, trials, and errors. Some groups were placed in a smoke-filled cabinet for daily periods 30 to 62 days prior to training. The daily tobacco fuming varied, for different groups, from 30 minutes to three hours in duration. Two control groups were used. The experiment covered four generations of rats. The following conclusions are drawn: Rats fumed to a limited degree are more prolific than normals. Prolonged smoking reduces the size of litters and the viability of offspring. Stunting effects of tobacco smoke are transmitted to offspring. Rats fumed with 5 grams of tobacco are superior to normal and other experimental groups in maze performance. Excessive fuming is associated with inferior learning. Sex differences appear. Each successive generation of fumed rats exhibits poorer maze performance. Where statistical interpretations were sought, the differences were unreliable.—*N. L. Munn* (Peabody).

1240. **Pennington, L. A.** Brain function and postoperative learning in audition. *Psychol. Bull.*, 1937, **34**, 766-767.—Abstract.—*R. H. Brown* (Clark).

1241. **Phillips, H. C.** The immediate effect of tobacco smoke on the learning ability of albino rats. *J. comp. Psychol.*, 1937, **24**, 471-486.—A multiple-Y maze and an alternation problem were used to compare the learning ability of rats subjected to tobacco fumes for 45 minutes daily with that of their litter-mate controls. Smoking immediately preceded the daily trial. Different concentrations of tobacco were used with two groups. Learning curves and critical ratios fail to disclose a significant difference in the performances of "smokers" and "non-smokers."—*N. L. Munn* (Peabody).

1242. **Planelles, J., & Ludwisch, D.** Die blutzuckersenkende Wirkung des Appetits, ein bedingter Reflex. (The hypoglycemic effect of appetite; a conditioned reflex.) *Klin. Wschr.*, 1936, **15**, 1076 ff.—*R. R. Willoughby* (Brown).

1243. **Rock, R. T., Jr.** The relative efficacy of immediate and delayed after-effects in learning. *Psychol. Bull.*, 1937, **34**, 733-734.—Abstract.—*R. H. Brown* (Clark).

1244. **Sanders, M. J.** An experimental demonstration of regression in the rat. *J. exp. Psychol.*, 1937, **21**, 493-510.—In this investigation the author attempted, first by training rats in two patterns of response, one following a genetic bias of the animal and the other the opposite of this bias, and then by subjecting them to various conditions calculated to create an emotional disturbance, to isolate the behavior phenomenon of regression, and to discover something of its nature and the conditions under which it occurs. The results are summarized in the

following conclusions: "(1) Regression analogous to the emotional phenomenon in humans has been isolated in the rat. (2) When it occurs, this regression is usually a sudden complete reversion to an earlier mode of response, more genetically characteristic of the organism than the behavior regressed from. (3) Regression is not adaptive or docile (i.e. the response regressed to persists despite its relative ineffectiveness in solving the problem confronting the organism). (4) Regression has an emotional basis, and this emotionality must be very closely integrated with the situation. (5) Regression may occur quite independently of the relative amount of practice on the two behavior patterns (it is not frequency or recency which makes one pattern dominant over the other)."—*H. W. Karn* (Pittsburgh).

1245. Schmidt, O. Zur Revision der Eidetik. Auseinandersetzung mit kritischen Einwänden. (Toward the revision of eidetic theory. A consideration with critical objections.) Kiel: Voss, 1937. Pp. 44.—*R. R. Willoughby* (Brown).

1246. Sears, R. R. Resolution of conflicts between approach and avoidance responses. *Psychol. Bull.*, 1937, 34, 719-720.—Abstract.—*R. H. Brown* (Clark).

1247. Seashore, R. H. An experimental analysis of human problem solving. *Psychol. Bull.*, 1937, 34, 788.—Abstract.—*R. H. Brown* (Clark).

1248. Seeck, G. C. The form of the curve of memory in rote learning. *Psychol. Bull.*, 1937, 34, 731-732.—Abstract.—*R. H. Brown* (Clark).

1249. Seidenfeld, M. A. The temporal interval as a factor in the recognition of visually perceived figures. *Psychol. Bull.*, 1937, 34, 731.—Abstract.—*R. H. Brown* (Clark).

1250. Sells, S. B., & Koob, H. F. A classroom demonstration of "atmosphere effect" in reasoning. *J. educ. Psychol.*, 1937, 28, 514-518.—The authors present in detail the procedure, test sheet, record sheet, and sample results of a group demonstration of the "atmosphere effect" in syllogistic reasoning.—*A. W. Melton* (Missouri).

1251. Stephens, J. M., & Baer, J. A. The influence of punishment on learning when the opportunity for inner repetition is reduced. *J. genet. Psychol.*, 1937, 51, 209-217.—The problem stated in the title was studied by means of the American Council Beta Spanish test, form A (a test of the multiple choice type), administered on three days in such a way as to secure data on the following questions concerning the word chosen on the second day: (1) Is this the word chosen on the first day? (2) How certain did the subject feel of his first day's choice? (3) What information (right, wrong, a nonsense symbol, a blank circle of light) did he receive after his choice on the second day? (4) Did he choose the same word on the third day? Choices were classified as indicating strong or weak connections on the basis of items (1) and (2). In a previous experiment which permitted considerable oppor-

tunity for drill or inner repetition, punishment (a signal for "wrong") definitely weakened initially strong connections. When that experiment was repeated as described, with opportunity for drill or inner repetitions reduced, strong connections were much less influenced by punishment. Though some influence of punishment was suggested in most types of comparisons, in none was the influence of "wrong" significantly different from that of the controls.—*E. Heidebreder* (Wellesley).

1252. Stevens, H. Avitaminosis B(B<sub>1</sub>), maze performance, and certain aspects of brain chemistry. *J. comp. Psychol.*, 1937, 24, 441-458.—Growing rats were fed a diet deprived of B<sub>1</sub> and fat. They were then trained on a 10-unit multiple-T maze. Learning and retention were compared with those of controls. The brains of experimental animals were removed, weighed, and the water and lipid content ascertained. 20 experimental rats divided into several deprivation groups were used. The results indicate "no significant agreement between brain weight, maze performance, sex, diet (as used in this experiment), ratio of brain weight to body weight, brain water, or total lipid content." Bibliography.—*N. L. Munn* (Peabody).

1253. Stockinger, G. Studien zum Problem der Rangreihenkonstanz in der Begabungsforschung. (Studies on the problem of rank constancy in the study of giftedness.) Tübingen: Gulde, 1937. Pp. 42.—*R. R. Willoughby* (Brown).

1254. Stone, C. P. A study of perseverance and frustration in working rats. *Psychol. Bull.*, 1937, 34, 721.—Abstract.—*R. H. Brown* (Clark).

1255. Thurstone, L. L. Ability, motivation, and speed. *Psychol. Bull.*, 1937, 34, 735-736.—Abstract.—*R. H. Brown* (Clark).

1256. Travis, R. C. Comparison of the influence of monetary reward and electric shocks on learning in eye-hand coordination. *Psychol. Bull.*, 1937, 34, 786-787.—Abstract.—*R. H. Brown* (Clark).

1257. Tso, J. H. [An experimental study of a curve of mental fatigue.] *Educ. Rev.* (Chinese), 1936, 26, No. 1, 137-146.—The aim of this experiment is to determine the nature of mental fatigue, by means of a test for higher mental processes. Both accuracy and speed were controlled. The materials used were 11 pages of horizontally printed Chinese reading matter, the size of the type being 4 sq. mm. The subjects tested were 10 college men students, 19-25 years old. They were required to mark every character containing either of two specified radicals for 30 mins. The combined scores R (number of characters correctly marked per min.), W (number of characters wrongly marked per min.), and N (total number of characters covered per min.) were used to determine the mental fatigue coefficient, which is a true index of mental fatigue. Then a curve of mental fatigue is plotted, which resembles that of muscular fatigue obtained by Mosso and others, and which can be fitted into Henry-loteyko's parabola of the third degree. Thus it is evident that mental work and muscular



work are not two distinct things. It is also found that the standard time limit for intensive mental work should be 30 mins., followed by sufficient rest.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1258. Waters, R. H. Group and individual maze learning by the albino rat. *Psychol. Bull.*, 1937, 34, 739.—Abstract.—R. H. Brown (Clark).

1259. Weaver, H. E. Eye movements in memorizing and recall. *Psychol. Bull.*, 1937, 34, 730-731.—Abstract.—R. H. Brown (Clark).

1260. Wickens, D. D. Transference of excitatory and inhibitory conditioning to an antagonistic muscle group. *Psychol. Bull.*, 1937, 34, 770-771.—Abstract.—R. H. Brown (Clark).

1261. Witkin, H. A. The rat's systematized habits of response in a non-problem situation. *Psychol. Bull.*, 1937, 34, 708-709.—Abstract.—R. H. Brown (Clark).

1262. Witkin, H. A., & Granich, L. An application of some principles of maze mechanics in the planning of a serviceable maze. *J. comp. Psychol.*, 1937, 24, 523-545.—The principle of centrifugal swing has been used in the construction of a maze in which blind alleys are favored and in which all blind alleys tend to be entered in early runs. "Since all blinds are approximately equal in their initial difficulty, the ease with which they are eliminated, when determined, will be a direct expression of ease of learning. This knowledge will also facilitate the analysis of the part played by special factors effective through learning, such as 'goal gradient,' 'anticipation' and the like." Differences in the maze behavior of fast and slow rats are indicated. In the present maze blind-alley retracing was no more frequent than true-path retracing. Bibliography.—N. L. Munn (Peabody).

1263. Youtz, A. C. A further evaluation and a tentative restatement of Jost's first law. *Psychol. Bull.*, 1937, 34, 730.—Abstract.—R. H. Brown (Clark).

1264. Youtz, R. E. P. The diminution in the resistance to extinction of one potential trial-and-error response following the extinction of another. *Psychol. Bull.*, 1937, 34, 740-741.—Abstract.—R. H. Brown (Clark).

1265. Zieve, L. Experimental study of visual perception and of Hull's conditioning theory. *J. comp. Psychol.*, 1937, 24, 487-494.—After they had been trained to follow a certain maze path, white rats were given an opportunity to take short cuts. The aim was (1) to determine whether, as Higginson has claimed, rats use "visual apprehension in a novel manner"; (2) to ascertain whether Valentine's view concerning speed of locomotion in such situations is justified; and (3) to test hypotheses suggested by Hull to account for related phenomena of learning. Use was also made of a disinhibiting factor to test the conditioning theory. The views of Higginson and Valentine were not supported by the data.

Hull's use of the concept of disinhibition is supported, at least partially, by the present results.—N. L. Munn (Peabody).

1266. Zunini, G. Contributo allo studio dell'apprendimento dei pesci: I. Osservazioni sul salto delle sanguinerole. II. Esperimenti del giro con sanguinerole. (Contribution to the study of learning of fish: I. Observations on the jumping of minnows. II. Detour experiments with minnows.) *Arch. ital. Psicol.*, 1937, 15, 271-349.—Experiments were made on minnows, involving their jumping from the water at various objects, or learning to make detours in reaching food in the water. The findings, similar to those of other experimenters in this field, are discussed as part of a broad critical survey of theories of animal learning. The learning shown in these experiments fits in certain respects with trial and error, conditioned reflex, and Gestalt theories of learning. The author supports Russell's differentiation of learning into the two processes of solution and habit formation.—C. J. Herrick (Pennsylvania).

[See also abstracts 1075, 1076, 1098, 1110, 1150, 1155, 1271, 1301, 1341, 1362, 1371, 1392, 1400, 1434, 1460, 1461, 1504, 1514, 1563, 1624, 1626, 1649, 1658, 1659, 1664, 1670, 1706.]

## MOTOR AND GLANDULAR RESPONSES

(incl. Emotion, Sleep)

1267. Alverdes, F. Die Wirksamkeit von Archetypen in den Instinkthandlungen der Tiere. (The functioning of archetypes in the instinctive behavior of animals.) *Zool. Anz.*, 1937, 119, 225.—Specific archetypes of feeding, prey, environment, location of nest, etc., operate in Uexküll's functional cycles in animals. Through these mental preparations animals are able to find their proper food and appropriate environment, gather provisions, and find their old breeding places. Assuming that such mental development is present in animals, Jung's theory of archetypes may be considered the beginning of a synthesis of human and animal psychology.—P. L. Krieger (Leipzig).

1268. Arsian, K. Interferenzphänomene am postrotatorischen Nystagmus. (Interference phenomena in postrotatory nystagmus.) *Z. Hals- Nas.- u. Ohrenheilk.*, 1934, 35, 109-138.—(Biol. Abstr. XI: 16225).

1269. Ashman, R., & Gouaux, J. L. Reflex inhibition of the human heart, complete A-V block and parasystole. *Proc. Soc. exp. Biol., N. Y.*, 1937, 37, 25-27.—Make-break shocks were administered every 650  $\sigma$  to the cut right vagus of dogs under anesthesia, and electrocardiograms were taken. Electrocardiograms from a patient with complete A-V block, and one showing reflex chronotropic effect upon an ectopic focus of normal systoles interpolated between successive manifest ectopic beats, are also given. Latencies of inhibition and duration of ascending limbs of curves are reported. The results suggest that reflex inhibition of a pacer-

maker may wax and wane within the time of a single cardiac cycle.—*H. Peak* (Randolph-Macon).

1270. **Bachmann, G., Haldi, J., Wynn, W., & Ensor, C.** The respiratory quotient and carbohydrate utilization as affected by exercise taken immediately and thirty minutes after the ingestion of glucose and of fructose. *Amer. J. Physiol.*, 1937, 119, 262.—Two series of experiments were conducted on each of two male adults. After the determination of the basal metabolism the subjects, in one series, rode a bicycle ergometer for 30 minutes immediately after the ingestion of 200 cc. water, 20 grams glucose or 20 grams fructose dissolved in 200 cc. water, the experiments with water serving as controls; in the other series they rode for the same length of time but began the exercise one half hour after the ingestion of water or the sugar solutions. Work was done at a constant rate of 550 kilogram-meters per minute. It is concluded that the amount of carbohydrate oxidized during exercise was appreciably increased by the ingestion of the sugars 30 minutes before beginning the exercise, and to a greater extent with glucose than with fructose, whereas it was unaffected when the same amount of these sugars was ingested immediately before exercise.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1271. **Bagchi, B. K., & Greenwald, D. U.** Electrodermal changes during certain types of attention. *J. gen. Psychol.*, 1937, 17, 235-248.—Electrodermal changes were recorded through liquid electrodes on the palm of the right hand. 7 subjects were used in 10 situations involving different degrees of movement and tension. Ranked in order of decreasing electrodermal change, the situations were: general tension; tension right arm; strained attention to right arm; movement without attention, right arm; strained attention to extracorporeal object; quiet attention, left arm; movement with attention; cogitation; quiet attention, left arm. Although there were individual reversals, there was a fair positive correlation between group and individual performance. The results are discussed in terms of centrifugal propagation of neural energy.—*H. Schlosberg* (Brown).

1272. **Ball, J.** The effect of male hormone on the sex behavior of female rats. *Psychol. Bull.*, 1937, 34, 725.—Abstract.—*R. H. Brown* (Clark).

1273. **Barris, R. W.** Deficiencies in the righting reflexes of cats following bilateral cortical lesions. *Amer. J. Physiol.*, 1937, 120, 225-231.—The neocortex rostral to a point 2 to 3 mm. behind the medial tip of the ansate sulcus was removed bilaterally in one operation. Labyrinthine reflexes were upset (the animal did not right itself when dropped blindfolded, or did so very slowly). "Body on body" responses were upset (when the animal was placed on its side and its head held there was little or no righting of the body). Body on the head reflexes were also upset when blindfolded (when the animal was held on its side the righting of the head which occurred in the unblindfolded condition did not occur). The animals were unable to maintain the

normal standing posture when blindfolded. These observations are difficult to harmonize with the view (of Magnus) that the righting reflexes, except the optic, may be carried out as long as the midbrain is intact.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1274. **Bean, J. W., & Rottschäfer, G.** The mode and site of action of oxygen at increased barometric pressures on the mammalian organism. *Amer. J. Physiol.*, 1937, 119, 268-269.—"Dogs were decerebrated under morphine-urethane, Evipal or temporary ether anesthesia. The cerebrum was removed down to the superior colliculi except for a few preparations in which the thalamus was left intact. The animals were exposed to commercial oxygen at from three to five atmospheres pressure. . . . The response to high oxygen in these preparations includes increased breathing and dyspnea, slowed heart rate, slightly or markedly increased blood pressure, and convulsive reactions typical of acute oxygen poisoning. The occurrence of such reactions in the decerebrate animals localizes their sites of origin to structures below the cortex and the basal ganglia. . . . The respiratory and body movements obtaining as a result of exposure to high oxygen are found to be so strikingly similar to those obtaining during cold blockage of the vagi at atmospheric pressure as to suggest the high oxygen acts to paralyze the normal vagal influence over the respiratory mechanism. . . . The respiratory nature of the convulsive movements points to the central respiratory mechanism as the primary site of acute oxygen poisoning. That high oxygen may exert some direct toxic central or peripheral action is not denied."—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1275. **Beburishvili, N.** [On the action of visual and auditory stimulation upon motor reactions in the frog.] *Trans. Beritov Inst. Tiflis*, 1937, No. 3, 345-360.—When a frog is stimulated with sound plus an electric shock a greater response of the legs occurs than when stimulated with the shock alone. Light usually inhibits the movement response, but when the light is turned off it may have an exciting effect. German summary.—*C. L. Prosser* (Clark).

1276. **Bender, M. B.** Fright and drug contractions in denervated facial and ocular muscles. *Amer. J. Physiol.*, 1937, 119, 270-271.—"Beginning at about eight days after sectioning the seventh or the third cranial nerve of monkeys slow spasmodic contractions of the denervated muscles occur whenever the animal becomes frightened. The contraction appears a few seconds after the initial period of fright, lasting about 3 seconds and disappearing within the next 5 to 7 seconds. If the monkey is startled repeatedly by the same method, i.e., a menacing gesture, the contraction fails to appear after several trials. New methods of frightening, however, serve to bring out the reactions. These slow contractions could not be reproduced by intramuscular injection of epinephrine or by stimulation of the cervical sympathetic trunk. . . . The similar

slow contractions in the denervated muscles were reproduced in every case by intramuscular injection of eserine (0.05 mgm. per kilo) followed by injection of acetylcholine (0.8 mgm. per kilo). . . . From these observations it is inferred that the fright reaction in the denervated muscles mentioned is produced by cholinergic innervation from some source other than the cervical sympathetic."—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1277. **Beritov, I., & Gogava, M.** [The general inhibition of reflex activity caused by cutaneous stimulations.] *Trans. Beritov Inst., Tiflis, 1937, No. 3, 265-274.*—Inhibition of reflexes was studied in frogs. The reflexes were set up by stimulating the skin or cutaneous nerves. Reflex effects vary according to the region of stimulation, excitation of the head producing the strongest inhibition. The inhibitory action of the mesencephalon and diencephalon is more marked than that of the medulla and cord. Phasic and tonic reflexes are inhibited most. Peripheral stimulation elicits first a strong defensive reaction, then prolonged immobility. Local stimulation may set up general inhibition. This general inhibition depends upon the functioning of the neuropil mass. English summary.—*C. L. Prosser* (Clark).

1278. **Beritov, I., & Kartozya, A.** [Contractive ability of nervous and nerveless regions of the muscle.] *Trans. Beritov Inst., Tiflis, 1936, No. 1, 1-14.*—Controlling conditions of blood circulation and mechanical damage, the sartorius and pectoralis muscles of the frog were employed to determine the different contractive abilities of nervous and nerveless regions. In one set of experiments contractions were measured on muscle which was not excised, but merely separated from the adjacent muscle, the circulation being intact. The experiments demonstrate that the central nervous regions consistently develop much stronger contractions than the proximate nerveless ones. The mechanical effect of the whole muscle was compared with the sum of the effects of all its parts, and it was found that the tension of the whole sartorius muscle, 35-40 mm. in length, was always markedly smaller than the sum of the tensions of separate regions. This difference is absent when the length of the muscle is less than 25-30 mm. No difference occurred when the shortening of the whole muscle was compared with the sum of the shortenings of the separate parts. English summary.—*H. Stevens* (Pennsylvania).

1279. **Bills, A. G.** The role of oxygen in recovery from mental fatigue. *Psychol. Bull., 1937, 34, 729.*—Abstract.—*R. H. Brown* (Clark).

1280. **Binger, C.** The psychobiology of breathing. *Ann. int. Med., 1937, 11, No. 1.*—*R. R. Willoughby* (Brown).

1281. **Carmichael, L.** Pressure stimulation and the specificity versus generality of response in fetal life. *Psychol. Bull., 1937, 34, 710.*—Abstract.—*R. H. Brown* (Clark).

1282. **Chang, M. C.** [The grasping reflex of adult albino rats before and after injury to the cerebral cortex and cerebellum.] *Chin. J. Psychol., 1937, 1, 312-324.*—The grasping reflexes of both the forelimbs and of the right or left forelimb were measured for 30 female rats by determining the length of time that an animal could remain suspended from an iron wire. It was found that the average time for both the forelimbs was  $12.56 \pm 0.90$  secs.; that for the right forelimb,  $1.98 \pm 0.13$  secs.; and that for the left forelimb,  $1.97 \pm 0.20$  secs. Cerebral or cerebellar lesions were made at different regions and the grasping time was again measured. Comparing the average grasping time before and after operation, some animals showed increase in time, some showed decrease or refused to grasp, and still others showed no significant difference. There was no clear relationship between the length of grasping and the locus or the extent of the lesion. The age of the rats, the depth of the lesion, and the body weight before and after the operation were also not determining factors.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1283. **Collier, R. M.** The crossed effects upon voluntary movement of a unilaterally induced fatigue. *Psychol. Bull., 1937, 34, 728-729.*—Abstract.—*R. H. Brown* (Clark).

1284. **Cornelli, G.** *Ricerche sperimentali sull'influenza dei suoni e dei rumori sull'attività umana.* (Experimental studies on the influence of sounds and noises on human activity.) *Arch. ital. Psicol., 1937, 15, 249-270.*—Subjects did cancellation and addition tests for periods up to 40 minutes, in silence, and under the stimulation of: noise ranging from 80 to 100 db, pure tones, and music. The sound stimulation increased the output materially, had little effect on accuracy, and had pronounced physiological effects. These included: lowered blood pressure, increased temperature, pulse changes characteristic of fatigue, and modification of plethysmograms "equal to that which accompanies periods of the most intense psychic activity." Reproductions of graphic records and a bibliography are included.—*C. J. Herrick* (Pennsylvania).

1285. **Crawford, B. H.** The dependence of pupil size upon external light stimulus under static and variable conditions. *Proc. roy. Soc., 1936, B121, No. 823, 376-395.*—(*Biol. Abstr. XI: 16232*).

1286. **Curti, G.** *Oscillazioni volontarie dei globi oculari.* (Voluntary movement of the eyeballs.) *Riv. oto-neuro-oftal., 1937, 14, 406-409.*—The author presents data, in the case of a feeble-minded patient, on a peculiar phenomenon involving motility of the eyeballs, a phenomenon which can probably be explained as a degenerative anthropological characteristic. He deals with the possibility of the patient's causing at will this rapid movement of the eyes in the horizontal plane.—*L. Canestrelli* (Rome).

1287. **Dam, L. v.** *Über die Atembewegungen und das Atemvolumen von Phryganea-Larven, Arenicola marina und Nereis virens, sowie über die Sauerstoffausnutzung bei Anodonta cygnea,*



*Arenicola marina* und *Nereis virens*. (Respiratory movements and volume of *Phryganea* larvae, *Arenicola marina* and *Nereis virens*, and oxygen consumption of *Anodonta cygnea*, *Arenicola marina* and *Nereis virens*.) *Zool. Anz.*, 1937, 118, No. 5/6, 122.—P. L. Krieger (Leipzig).

1288. Darrow, C. W. Systolic and diastolic blood pressure continuously recorded: apparatus and applications. *Amer. J. Physiol.*, 1937, 119, 295.—"The apparatus here described continuously records either systolic or diastolic blood pressure without puncture of an artery and, with duplicate equipment, it provides simultaneous records of both systolic and diastolic pressure. In this instrument the changes in the pulse wave below an inflated cuff which are commonly noted by auscultation are utilized mechanically to maintain the critical diastolic or systolic pressure which may be continuously recorded. The effects of the critical change in the pulse wave affect the apparatus through the agency of a second cuff below the one commonly employed in auscultation (or by the lower chamber of a single double cuff). The pulse waves thus transmitted act upon a sensitive differential tambour having electrical contacts controlling a vacuum tube relay and an electro-magnetic valve."—T. W. Forbes (Harvard Bureau for Traffic Research).

1289. Diebschlag, E. Ganzheitliches Verhalten bei See- und Schlangensterne. (Total behavior of asteroids and ophiurids.) *Zool. Anz.*, 1936, 9, 150-157.—The behavior of these two forms of marine life cannot be explained on the basis of reflexes, but these have to be combined into higher units by each organism. This unification depends on the activity of the nervous system, but it must remain an open question whether certain more or less definite nerve centers play a decisive part.—P. L. Krieger (Leipzig).

1290. Dubuisson, M. Recherches sur l'ionomyogramme et l'electrotonus. (Researches on the ionomyogram and electrotonus.) *Arch. int. Physiol.*, 1935, 41, 511-537.—(*Biol. Abstr.* XI: 16283).

1291. Dusser de Barenne, J. G., & Ward, A. A., Jr. Reflex inhibition of the knee jerk from intestinal organs. *Amer. J. Physiol.*, 1937, 120, 340-344.—Monkeys and cats were placed under dial. Distension of the urinary bladder, gall bladder and a loop of the ileum produced a marked inhibition of the knee jerk. The effect was most pronounced in the monkey. It is held that the stimulus probably corresponds to dull pain in the conscious human, which tends to produce a reflex flexion, and that this therefore inhibits the extensor mechanism. It is pointed out that the inhibition is apparently more pronounced than the fundamental flexion reflex with which it is correlated, at least in the anesthetized animal.—T. W. Forbes (Harvard Bureau for Traffic Research).

1292. Freeman, G. L. The optimal locus of 'anticipatory tensions' in muscular work. *J. exp. Psychol.*, 1937, 21, 554-564.—"Current research indicates much confusion regarding the effects of

muscle tensions on performance. The present experiment studied the locus of 'anticipatory tensions' as one factor entering into the equation. Subjects performed finger oscillations with right or left biceps or triceps sustaining various weights. The results indicate that different loads may affect optimal facilitation of the test performance when acting from different muscle groups. To eliminate complicating central factors, such as attentional shifts in a bifurcate task, subjects again performed finger oscillations but with ipsilateral or contralateral muscles contracting in response to faradic stimulation of their motor points. Optimal facilitation is produced by anticipatory tension in muscle groups most closely associated with the reacting member. Novocaine nerve-block abolishes facilitative effects of contraction developed in associated muscles, indicating the importance of proprioceptive pathways. The relation of these results to principles of spinal irradiation is discussed."—H. W. Karn (Pittsburgh).

1293. Gesell, R., Steffensen, E. H., & Brookhart, J. M. The interaction of the rate and depth components of respiratory control. *Amer. J. Physiol.*, 1937, 120, 105-120.—It was accidentally observed that inflation of the lungs under light anesthesia in certain rare cases produced an increased rate of breathing instead of the usual inhibition. This phenomenon was further investigated by varying rate and depth components. Inflation of the lungs and chemical stimulation together (anoxemia or injection of sodium cyanide or sulfide) produced a greater acceleration than the chemical stimulation alone. Slowing from vagal stimulation plus chemical stimulation yielded a high breathing rate. While weak stimulation of the vagus produced moderate acceleration, strong stimulation of the same nerve produced slowing. However, when the latter was combined with an amplitude component (sensory nerve or chemical stimulation) much greater acceleration was produced. An involved theory of the functioning of the respiratory center is postulated in which peripheral and central chemical drives are controlled proprioceptively. Depletion and reformation of C. E. S. determine the respiratory discharge, while interaction between the original discharge and the curtailing and accelerating action of the vagi determines velocity, depth, and duration of inspiration. The chemical factor increases central discharge and accelerates rebuilding of C. E. S. On the basis of such a system the paradoxical acceleration is explained as a neutralization of the retardation from inflation by the chemical drive and by acceleration of the rebuilding of C. E. S.—T. W. Forbes (Harvard Bureau for Traffic Research).

1294. Gozirdze, A. [Study of acidic stimulation by the method of Turk.] *Trans. Beritor Inst., Tiflis*, 1936, No. 1, 38-60.—First, experiments were performed to determine the period of reflex reaction with the usual method, using a metronome and putting alternately a solution of 0.1% and 0.2% sulfuric acid on the hind legs of a frog. The legs

were washed with water in the interval between the experiments. A modified method also was used to study the latent period of the reaction with acidic stimulation. The intensity and character of this reaction with myographic tracings of the antagonistic muscle of the thigh were also studied. The author concludes that the experiments show that the duration of the latent period of the reflex act which is produced by Turk's method of acid irritation is very variable under the different controlled conditions of the experiment. Therefore it is very difficult to judge the functional condition of the central nervous system with this method. German summary.—*H. Stevens* (Pennsylvania).

1295. *Graves, E.* The genetic basis of activity in the albino rat. *Psychol. Bull.*, 1937, 34, 757-758.—Abstract.—*R. H. Brown* (Clark).

1296. *Groeneveld, C.* Einfluss des Hungers auf die Psyche. (The influence of hunger on the psyche.) Bonn: Kubens, 1937. Pp. 25.—*R. R. Willoughby* (Brown).

1297. *Guilford, J. P.* Some peculiarities of affective ratings. *Psychol. Bull.*, 1937, 34, 737.—Abstract.—*R. H. Brown* (Clark).

1298. *Harris, R. E., & Ingle, D. J.* The influence of destruction of the adrenal medulla on emotional hyperglycemia in rats. *Amer. J. Physiol.*, 1937, 120, 420-422.—Previous experiments by various investigators have indicated that the adrenal medulla is necessary for emotional hyperglycemia. However, there has been the possibility of impairment of function of the adrenal cortex, and the present study was undertaken to eliminate this criticism. Fright was produced by loud sounds. The transplant method and the enucleation method were used, in both of which the medulla is eliminated and the cortex regenerates. It is believed that there was no impairment in function of the adrenal cortex. The results support the conclusion that the adrenal medulla is essential for emotional hyperglycemia in the rat.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1299. *Ingle, D. J., & Kendall, E. C.* The adaptation of the adrenal cortex to conditions of stress which increase the requirement for cortin. *Psychol. Bull.*, 1937, 34, 725-726.—Abstract.—*R. H. Brown* (Clark).

1300. *Jucknat, M.* Leistung, Anspruchsniveau und Selbstbewusstsein. (Accomplishment, level of aspiration and self-consciousness.) *Psychol. Forsch.*, 1937, 22, 89-179.—This investigation follows Hoppe's work on level of aspiration. It confirms his chief findings in more elaborate experiments, using a quantitative method. It further investigates the transfer of aspiration level from one set of activities to another. In general, the decisive factors in establishing aspiration level and experience of success and failure are: (1) the momentary accomplishment, (2) the personal history of confidence in accomplishment, (3) the momentary accomplishment impulse, (4) the seriousness of the situation, (5) the personality type of the individual. The

results are treated theoretically in terms of Lewin's topological psychology.—*J. F. Brown* (Kansas).

1301. *Jung, K.* Die Säuberungshandlungen der Ameisen, zugleich ein Beitrag zur Plastizität des Nervensystems. (The cleansing activities of ants, and a contribution to the plasticity of the nervous system.) *Zool. Jb.*, 1937, 69, 373-417.—A discussion of the general and sex-linked cleansing activities of ants on various parts of their bodies, and of the tactual, mental and other stimuli which cause them. The differential arrangement of these activities leads to the conclusion that the nervous system possesses some plasticity.—*P. L. Krieger* (Leipzig).

1302. *Kao, D.* Plateaus and the curve of learning in motor skills. *Psychol. Monogr.*, 1937, 49, No. 3. Pp. 94.—By means of two specially designed pieces of apparatus simple motor skills were compared with complex ones; and complex skills "in which the factors work simultaneously and are independent of one another" were compared with others "in which the factors work in succession and . . . are dependent upon one another." In the complex tasks, whenever attention was specifically directed toward the separate factors the results of the experiments tended to confirm Batson's suggestion that "if the task is of such nature that the separate parts cannot be singled out for special attention, there will be no plateau; but if a complex task is such that the components can be attended to separately and the learner chooses to do so, there will be plateaus in the learning curve." But, contrary to Batson's suggestion, short plateaus were also found in the simple tasks, and for various reasons.—*K. F. Muenzinger* (Colorado).

1303. *Kaminskii, S. D., & Maiorov, F. D.* [Action of different doses of bromine on inhibition in monkeys of the excitable type.] *Byull. vsesoyuz. Inst. eksp. Med.*, 1935, Nos. 9-10, 14-15.—*R. R. Willoughby* (Brown).

1304. *Kleinknecht, F., Lindner, R., & Starcke, H.* Untersuchungen über Lageorientierung im Raume und Veränderungen der Muskelresistenz an taubstummen Kindern. (Investigations on positional orientation in space and changes of muscular resistance in deaf-mute children.) *Z. Biol.*, 1936, 97, 99-107.—(*Biol. Abstr.* XI: 16210).

1305. *Kometiani, P.* [Chemical composition of the nervous and the nerveless parts of the muscle.] *Trans. Beritov Inst., Tiflis*, 1936, No. 1, 28-38.—This study deals with the distribution of phosphorus compounds in the sartorius muscle. In this muscle the distribution of phosphorus fractions in the nerveless part is similar to that in the nervous one, and this distribution changes almost similarly in partial or complete fatigue of the muscle. When the triturated muscle tissue is mixed with water, the decomposition of the phosphogen and adenosintriphosphoric acid is more intense in the nervous part. During rest, after complete fatigue of the muscle, the resynthesis of phosphorus compounds is quicker in the nervous portion than in the nerveless one. The author assumes that the mechanism controlling

the decomposition and the synthesis of the phosphogen and adenosintri-phosphoric acid is more powerful in the nervous part; therefore, the exchange of phosphorus compounds is going on more intensely in the nervous portion, and a greater quantity of useful energy is liberated. English summary.—*H. Stevens* (Pennsylvania).

1306. **Krause, L. S.** Relation of voluntary motor pressure disorganization (Luria) to two other alleged complex indicators. *J. exp. Psychol.*, 1937, 21, 653-661.—Under conditions of a free association experiment measurement was made of three complex indicators: long reaction time (over 2.6 seconds), failure in reproduction of the response word, and the Luria indicator. Coefficients of association ( $Q$ ) between the three indicators are small but clearly positive. It is concluded that voluntary motor pressure disorganization (Luria) is a valid complex indicator if long reaction time and failure at reproduction are used as criteria.—*H. W. Karn* (Pittsburgh).

1307. **Leblond, C. P., & Nelson, W. O.** Maternal behavior in hypophysectomized male and female mice. *Amer. J. Physiol.*, 1937, 120, 167-172.—A preliminary report noted that lactating mice continue to take care of their young after hypophysectomy. Since a "fully developed parental instinct" existed at the time of operation, it was thought that this effect might be due to a nervous or psychological mechanism. Therefore the present study was made of virgin males and females. In order to obtain an index of maternal behavior, an infant mouse was dropped into the cage with the experimental animal and the following items were noted: (1) retrieving behavior, (2) stimulation of nest building, and (3) care of young, with suitable subdivisions and scoring. It is concluded that the maternal instinct persists in lactating rats and mice and can be initiated in young male and female mice. A nervous mechanism which may be initiated without hormonal influence seems to be the essential factor of this instinct.—*T. W. Forbes* (Harvard Bureau for Traffic Research).

1308. **Lei, C. T.** Studies in the grasping reaction of the white rat. I. The grasping reaction in the adult white rat. *Chin. J. Psychol.*, 1937, 1, 279-311.—60 adult white rats (29 male and 31 female) were used for testing the grasping reaction by means of a portable grasping apparatus; each rat was given 3 trials a day for 60 days. It was found among other things that the grasping time increased more or less as the experimental days advanced. The mean grasping time for the 60 rats was  $12.70 \pm 0.40$  secs. The shortest grasping time was 6.06 secs., while the longest was 24.79 secs. As shown by the grasping curves for the males and the females, sex differences in the grasping reaction were very remarkable. The grasping curve for the females stood much higher than that for the males; the former fluctuated up and down, while the latter was smoother and steadier. The grasping curves may be classified into 5 types, all exhibiting a number of distinct sex differences. The rank-difference correlation between the grasping

time and body weight for the whole group was  $-.2195 \pm .0859$ . The rats manifested very remarkably the phenomenon of "footedness," which is analogous to handedness in the primates.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nan-king).

1309. **Liderman, M. J.** [The dynamics of vegetative reflexes under conditions of low and high temperatures and of ray energy.] *Sovetsk. Psichonevrol.*, 1936, 12, No. 6, 16 ff.—*R. R. Willoughby* (Brown).

1310. **Lottig, H.** Wechselbeziehungen zwischen Psyche und vegetativem Nervensystem beim Flieger. (Mutual relationships between psyche and vegetative nervous system in aviators.) *Luftfahrtmedizin*, 1936-37, 1, 221-234.—War experience showed that the average aviator collapsed after 150-200 flying hours unless measures for prompt relief of tension were taken. Even in peace time, aviator's neurasthenia in the form of being "flown out" is not unknown. Pathological conditions of the neurovegetative system and often also organic conditions in these pilots are related especially to the gastro-intestinal tract (constipation, diarrhea, "the ulcer type"). Hypochondriasis—often in connection with premature ageing—is more frequent than actual anxiety feelings. Cardiac neuroses occur almost exclusively after falling or dangers successfully overcome.—*P. L. Krieger* (Leipzig).

1311. **Lubsen, N.** Sur le rôle de la peau dans le maintien du tonus musculaire chez la grenouille. (The role of the skin in the maintenance of muscular tonus in the frog.) *Arch. néerl. Physiol.*, 1936, 21, 496-502.—(*Biol. Abstr.* XI: 16296).

1312. **Luft, U. C.** Irreversible hypoxämische Organveränderungen bei alten und jungen Tieren im Unterdruck. (Irreversible hypoxemic changes in the organs of old and young animals under decreased atmospheric pressure.) *Beitr. path. Anat.*, 1937, 99, 351.—Previous data on organic changes in hypoxemia are amplified, especially in regard to the central nervous system. Adult animals die when, after a considerable exposure to reduced atmospheric pressure, they are returned to normal pressure, while young immature animals can endure a corresponding exposure much longer. Nevertheless young animals show more marked changes in the central nervous system than do others. No relationship between the intensity of cell injury and duration of the experiment could be demonstrated.—*P. L. Krieger* (Leipzig).

1313. **Magee, C., Bricker, J., & Gesell, R.** Changes in action potentials of the central mechanism controlling breathing produced by modifications of the respiratory act. *Amer. J. Physiol.*, 1937, 119, 370-371.—"Modifications of respiration in dogs decerebrated under morphineurethane or evipal anesthesia were produced by artificial ventilation, expiratory and inspiratory mechanical asphyxias,  $\text{NaCN}$ ,  $\text{Na}_2\text{CO}_3$ , and  $\text{CO}_2$ . Potentials were obtained by means of needle electrodes from the dorsal funiculus, gracile and cuneate nuclei, internal



arcuate fibers, medial and lateral reticular formations, reticulo-spinal tracts, ventral horn cells, and connections to and from the cerebellum. On the whole, there was a similarity of response to these procedures whether the structure was on the sensory, motor, or internuncial portion of the arc, i.e., inspiratory or expiratory potentials were either augmented or diminished; inspiratory and expiratory potentials occurring with each respiratory cycle were altered in a parallel or reciprocal manner."—T. W. Forbes (Harvard Bureau for Traffic Research).

1314. Magnotti, T. *L'importanza dell' olfatto sullo sviluppo e funzione degli organi genitali.* (The importance of odor in the development and function of the genital organs.) *Boll. Mal. Orecch.*, 1936, No. 8, 281-293.—The olfactory bulbs were removed from a group of guinea pigs, some of which were also blinded. No procreation took place, although the animals lived in common quarters for several months. A histological examination showed that an arrest in the development of the genital organs had taken place.—L. Canestrelli (Rome).

1315. Montpellier, G. de. *Les altérations morphologiques des mouvements rapides.* (Morphological alteration in rapid movements.) *Etud. Psychol.*, 1935, 4. Pp. x + 251.—Montpellier's experiments are closely related to the studies on morphological alteration in movements which have been carried on during recent years at the Louvain laboratories (see IX: 163). He deals with the morphological changes in rapid movements through an experimental study of the trajectories of movements similar to daily habits of cursive and dactylographic writing (tracing simplified polygon and criss-cross models and striking a specialized keyboard according to indicated trajectories). He describes his results relative to the kinetic and spatial structure of the reactions and gives a descriptive analysis of the observed morphological changes and the conditions under which these changes appear (both general changes, such as speed, and local, such as special geometric form and rhythm). Under general conditions he also discusses the conflict arising from the tendency toward exact reproduction of a proposed model and the tendency toward least effort, the final trajectory being the result of equilibrium between these two forces. The speed factor is affected by both the amplitude of the trajectory and the degree of complication. In conclusion he presents a general theoretical discussion of morphological changes in movements, with emphasis on the tendency toward nervous integration.—R. Nihard (Liège).

1316. Myhrman, G. *Elektromyographische Registrierung der sogenannte Sekundärwelle.* (Electromyographic registration of the so-called secondary wave.) *Skand. Arch. Physiol.*, 1936, 73, 291-295.—(*Biol. Abstr.* XI: 16299).

1317. Notter, H. *Die Aktionsströme sympathischer Impulse in den Muskeln während natürlicher reflektorischer Tätigkeit.* (The action currents of sympathetic impulses in muscles during natural

reflex activity.) *Z. Biol.*, 1936, 97, 343-351.—(*Biol. Abstr.* XI: 16300).

1318. Nygard, J. W. *Cerebral circulation prevailing during sleep and hypnosis.* *Psychol. Bull.*, 1937, 34, 727.—Abstract.—R. H. Brown (Clark).

1319. Peak, H. *Some comparisons between reflex inhibition and summation and the time error function.* *Psychol. Bull.*, 1937, 34, 771.—Abstract.—R. H. Brown (Clark).

1320. Peters, H. N. *A condition of affective judgments.* *Psychol. Bull.*, 1937, 34, 789-790.—Abstract.—R. H. Brown (Clark).

1321. Rosenblueth, A., & Morison, R. S. *The electric responses of the facial muscles.* *Amer. J. Physiol.*, 1937, 120, 384-391.—An attempt was made to record the activity of single fibers from the facial muscles of cats under dial. Indirect stimulation was applied through the facial nerve by condenser discharge, photo cell stimulator or, rarely, induction shock. At a stimulation of 30 per second latency first decreased and then increased to its original value or greater. A previous tetanic stimulus increased the amplitude and duration of the response to a subsequent single maximal shock. Prostigmin increased the duration of response to a single shock but decreased the response per shock to repetitive stimuli. Curare reduced the amplitude to single shocks while tetanic stimulation caused decarization. A high degree of temporal dispersion occurred in the muscle and was explained as due to neuro-muscular delays, since curarization reduced the dispersion picture and since repetitive nerve responses were not present. It is held that the results are best explained by the theory of mobilization of acetylcholine at the junction.—T. W. Forbes (Harvard Bureau for Traffic Research).

1322. Rotmann, E. *Reiz und Reizbeantwortung in der Amphibienentwicklung.* (Stimulus and response in the development of amphibians.) *Zool. Ans.*, 1935, 8, 76-83.—Heteroplastic and xenoplastic graft experiments have demonstrated that the developmental tendencies inherent in the lens cells determine the size of the lens which is typical of each species. The result of a mutual heteroplastic exchange of eye tissue was a differential development of eyes, but both lenses were of the same size. Other organs may develop by stimulation of a specific or general nature, but the development of the lens depends on strictly localized factors.—P. L. Krieger (Leipzig).

1323. Ruckmick, C. A. *A critique of the "galvanic" technique.* *Psychol. Bull.*, 1937, 34, 753-754.—Abstract.—R. H. Brown (Clark).

1324. Schneirla, T. C. *Analysis of the army-ant behavior pattern: the nature of an "instinct."* *Psychol. Bull.*, 1937, 34, 710-711.—Abstract.—R. H. Brown (Clark).

1325. Seward, J. P., & Seward, G. H. *Psychological effects of estrogenic hormone therapy in the menopause.* *J. comp. Psychol.*, 1937, 24, 377-392.—Measures of fatigue, steadiness, speed of

tapping, color naming, free association, adding, memory, reasoning, sleep, energy, and mood were obtained from six women going through the menopause. Injections of estrogenic hormone were given for several weeks, rotated with control injections of saline solution. Consistent differences in reaction following experimental and control injections failed to appear. Theoretical and clinical implications are considered. Bibliography.—N. L. Munn (Peabody).

1326. Shea, J. P. Toward a dynamic theory of feeling and emotion. *Psychol. Bull.*, 1937, 34, 755.—Abstract.—R. H. Brown (Clark).

1327. Sollenberger, R. T. A photographic study of tremor during postural contraction. *J. exp. Psychol.*, 1937, 21, 579-610.—By means of a new and accurately calibrated apparatus the author was able to make an exact quantitative analysis of the rate and amplitude of the involuntary oscillation during postural contraction. It was found that when the right index finger of a normal human adult was extended the most noticeable characteristic of tremor is its irregularity in both rate and amplitude. The rates obtained were in general agreement with those reported by most investigators (5 to 15 per second). Amplitudes vary between .05 and 1.5 mm., over 50% of the tremors being under .10 mm. in amplitude. There is an inverse relationship between rate and amplitude, apparently because large vibrations mask the effect of individual muscle fiber contractions, thus reducing the number of small tremors in the record. Voluntary tensing of the finger increased the amplitude and decreased the rate of tremor. The effect of mental work is to produce a measurable change in the same direction as that caused by voluntary tensing of the finger.—H. W. Karn (Pittsburgh).

1328. Spragg, S. D. S. The nature of morphine addiction in chimpanzee. *Psychol. Bull.*, 1937, 34, 726.—Abstract.—R. H. Brown (Clark).

1329. Steiniger, F. Die Bedeutung der sogenannten "tierischen Hypnose." (The significance of so-called animal hypnosis.) *Ergebn. Biol.*, 1936, 13, 348-451.—The author discusses the various concepts of animal hypnosis, with special emphasis on the inhibition of reactions occurring among vertebrates and on the catalepsy of arthropods. He points out that these phenomena are not equivalent. It is possible that conditions other than inhibition of reactions exist among vertebrates which parallel human hypnosis. Also, behavior forms occur among insects which are perhaps similar to the inhibitions of vertebrates. In a biological sense animal hypnosis is one instinct among many other instincts, and is a condition which can be understood by considering the entire life cycle of the animal, but never in isolation.—P. L. Krieger (Leipzig).

1330. Strelin, G. O fiziologicheskome gradiente. II. Reaktivnoe obrazovanie pochek u *Pelmatohydra oligactis* i podavlenie étoí reaktivnoí vlianiem golovnogo kontsa tela. (Physiological gradient. II. Reactive formation of buds in *P. oligactis* and sup-

pression of this reaction by the influence of the head end of the body.) *Russk. Arkh. Anat.*, 1936, 15, 47-75.—(*Biol. Abstr.* XI: 16217).

1331. Sun, K. H., & Chang, M. C. The feeding behavior of headless *Planaria dorocephala*. *Chin. J. Psychol.*, 1937, 1, 325-333.—Bardeen has found that headless *Planaria maculata* invariably failed to find and eat its food. In a repetition of this experiment with *Planaria gonocephala*, Chang found that some of the worms could exhibit normal feeding behavior in spite of deprivation of their heads. In the present study. *Planaria dorocephala* (about 1.5 cm. in length during locomotion) were deprived of their heads by an incision made from 1 to 2.5 mm. behind the auricular appendages. It was found that the headless *Planaria dorocephala*, 24-78 hours after operation, is able to show co-ordinated feeding reactions provided it is active enough to move around in the watch glass or in the trough. There seem to be some differences between the normal and the headless worms, but these differences must be determined with other experimental methods and with a larger number of animals.—C. F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1332. Tzereteli, M. [The study of imitation in dogs.] *Trans. Beritov Inst.*, Tiflis, 1936, No. 1, 109-126.—Using the method of free movements with adult dogs, the authors found that imitation is clearly expressed under the various conditions of the experiment. The imitation reactions are increased by a brief fast, and disappear when the dogs are fed. This proves that imitation is conditioned by increase of excitation in the central nervous system. Imitative movements of one animal are conditioned by movements of the other one and not by the individual food signal or the situation of the food box. This is obvious in cases where the animal continues imitative movements, although the individual food signal is without significance to it, or the position of the feeder is unfamiliar. English summary.—H. Stevens (Pennsylvania).

1333. Vampa, D. Profilo grafico dell'habitus costituzionale di gruppi differenti di atleti. (Graphic profile of the constitutional habitus of different groups of athletes.) *Atti Congr. naz. med. sport.*, Bologna, 1935, 13, 150-157.—L. Canestrelli (Rome).

1334. Warnke, G. Zur Akinese bei jungen Möwen und Störchen. (Akinesia in young gulls and storks.) *Zool. Anz.*, 1937, 118, 17.—The previously known fact that akinesia can occur in normal positions and without mechanical influence is confirmed by observations on young gulls and storks. Akinesias have psychological causes. Peizmeier's theory of their instinctual origin is refuted.—P. L. Krieger (Leipzig).

1335. Warren, N. Action current leads in bilaterally paired muscles. *Psychol. Bull.*, 1937, 34, 727-728.—Abstract.—R. H. Brown (Clark).

1336. Weyrauch, W. Eine ungewöhnliche Gesichtsfärbung bei *Vespa vulgaris* L. (An unusual facial coloring in *Vespa vulgaris* L.) *Zool. Anz.*, 1937, 118, No. 9/10, 268.—An experimental stimulus to

changed location of pigment in wasps through local dosages of moisture and warmth.—*P. L. Krieger* (Leipzig).

1337. **Wilder, C. E.** Selection of rachitic and anti-rachitic diets in the rat. *J. comp. Psychol.*, 1937, 24, 547-577.—Two closely related problems were investigated. The first was "to determine the additional difficulty a rat on a high-calcium, low-phosphorus rachitogenic diet would undergo in order to obtain a food tending to adjust the mineral balance and prevent or alleviate rickets." The second problem was that of determining "the nature of selection between the same two diets under simple choice conditions, with a view, in particular, toward investigation of the relationship between selection and deficient nutritional status of the animals concerned." A maze with two food boxes, one near and one distant, was used in the first problem. The second problem involved a simple choice procedure. In most instances the animals did not select food which would alleviate their nutritional deficiency. There was a strong tendency to select the unfamiliar diet in preference to the familiar one regardless of whether the latter was rachitogenic or anti-rachitic. Bibliography.—*N. L. Munn* (Peabody).

1338. **Wittkower, E.** Einfluss der Gemütsbewegungen auf den Körper. (Influence of mental agitation on the body.) Vienna, Leipzig: Semseiner Verl., 1936. Pp. 215.—*R. R. Willoughby* (Brown).

1339. **Wu, S. H.** [Internal secretion and psychology.] Shanghai: Commercial Press, 1936. Pp. 142. \$.40 mex.—A brief account of the present knowledge of internal secretions as related to psychology is given.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1340. **Zieve, L.** Effect of benzedrine on activity. *Psychol. Rec.*, 1937, 23, 393-396.—Records of the spontaneous activity of 24 three-months-old albino rats whose diet contained medium doses of benzedrine definitely showed the activating effects of the drug. "A difference of approximately 20% between the relative variability of the control periods and the test period indicates that benzedrine tends to reduce relative variability." Apparently no tolerance was built up to the drug.—*P. S. de Q. Cabot* (Simmons).

1341. **Zunini, G.** Osservazioni sul salto delle sanguinerole (*Phoxinus laevis* Agas). (Observations on the leaping habits of *Phoxinus laevis* Agas.) *Arch. Sci. biol., Napoli*, 1936, 22, 407-436.—The leaping of these fish toward different objects held outside the water appears to be a means of finding food, and it is stimulated differently by various forms, colors, and luminosities. The fish learn the uselessness of leaping for certain objects, and they retain this knowledge, though imperfectly, for some time. The author discusses his results as related to the reflex theory.—*L. Canestrelli* (Rome).

(See also abstracts 1016, 1022, 1045, 1046, 1054, 1061, 1066, 1071, 1078, 1080, 1082, 1083, 1092, 1093, 1150, 1169, 1173, 1210, 1216, 1226, 1239, 1241, 1252, 1255, 1257, 1259, 1261, 1364, 1371,

1385, 1390, 1412, 1436, 1442, 1504, 1514, 1515, 1548, 1551, 1556, 1575, 1676, 1681, 1684, 1701, 1705.]

## PSYCHOANALYSIS, DREAMS, HYPNOSIS

1342. **Abraham, K. Giovanni Segantini: a psychoanalytic essay.** *Psychoanal. Quart.*, 1937, 6, 453-512.—Basing his study chiefly on a biography by Franz Servaes, the author attempts to view in the light of psychoanalysis and to explain psychologically the development, the inner and outer life, the art, and the works of the artist Giovanni Segantini. Throughout the author places emphasis upon the mother-son relationship reflected in the artist's works.—*M. H. Erickson* (Eloise Hospital).

1343. **Bálint, M.** Frühe Entwicklungsstadien des Ichs. Primäre Objektiebe. (Early development of the ego. Primary object-love.) *Imago, Lpz.*, 1937, 23, 270-288.—While there is general agreement with Freud concerning the broader aspects of infantile love, "schools" have diverged in regard to details of the genetic problem. That of the London psychoanalysts, as represented by Riviere, emphasizes oral-sadistic manifestations. A Viennese rejection of this doctrine, typified by Wälder, embodies sound criticism but inadequate positive explanation. In Budapest, pupils of Ferenczi have found clinical grounds for modification of strongly empiricistic theories.—*H. D. Spoerl* (American International College).

1344. **Bálint, M.** Ein Beitrag zum Fetischismus. (A contribution to fetishism.) *Int. Z. Psychoanal.*, 1937, 23, 413-414.—A fetish object is always one of relatively slight intrinsic value which is given an exaggerated significance by reason of the personal complexes involved. Usually it is non-living, and most often is something which can either be worn or into which some part of the body can be put. These characteristics connect fetishism with kleptomania and transvestitism. In the former intrinsically worthless objects are imbued with great value, while in the latter the accent is placed on the urge to dress in the clothes of the opposite sex.—*H. J. Wegrocki* (Minnesota).

1345. **Barag, G.** Zur Psychoanalyse der Prostitution. (The psychoanalysis of prostitution.) *Imago, Lpz.*, 1937, 23, 330-362.—The few existing psychoanalytical considerations of any aspect of prostitution are confined to the psychology of the client and his relation to the prostitute. Ample evidence from a variety of sources points to the representation of the mother-imago by the prostitute. As to the psychology of the prostitute herself, economic considerations must be ruled out as significant causative factors. In general the mechanism of the castration wish appears to be an underlying principle. The entire subject requires much further study, to which it is open. There is an extensive bibliography covering chiefly descriptive and historical investigations.—*H. D. Spoerl* (American International College).

1346. **Barker, R., Dembo, T., & Lewin, K.** Experiments on frustration and regression in children.



*Psychol. Bull.*, 1937, **34**, 754-755.—Abstract.—R. H. Brown (Clark).

1347. Barrett, W. G. A childhood anxiety. *Psychoanal. Quart.*, **6**, 530-535.—An anxiety in a 3½-year-old boy evolved through the following stages: (1) a jealous, angry desire to bite in relation to his mother's pregnancy and his father's penis; (2) an obsessive interest in and fear of cutting instruments; (3) concern over his sister's lack of a penis; (4) a refocusing of castration anxieties toward his father's genitals and a translation of this into a fear of a hairy, biting animal. Resolution of the anxiety came through certain experiences with his parents and spontaneous play. Discussion is given of the dynamics involved.—M. H. Erickson (Eloise Hospital).

1348. Bergler, E. "Jemanden ablehnen"—"Jemanden bejahen." (Rejecting someone; accepting someone.) *Imago, Lpz.*, 1937, **23**, 289-303.—Acceptance and rejection of others, which appears irrational from the point of view of outward affective aspects, has been erroneously derived from the activity of the id. The actual criterion for these polar attitudes is ultimately the quantitative intensity of instinct. This is elaborated in various ways into defense mechanisms which constitute the eventual relationships.—H. D. Spoerl (American International College).

1349. Bornstein, B. Struktural-logischer und ontologischer Aspekt des Freudschen Begriffs der Verdrängung. (Structural and ontological aspects of the Freudian concept of repression.) *Imago, Lpz.*, 1937, **23**, 371-375.—Since it involves polar opposition, Freud's concept of repression does not fit traditional schemes of logic. It is, however, to be understood in terms of a suitable dialectic, and is in fact aligned with Hegelian conceptions. The synthesis required for logically stating the opposition is furnished not by structural logic but by ontological analysis. The formula  $a < a' = (a + a' = a')$  represents "the basis for the absorption or repression of the weaker element by a stronger opposed element." This logic also appears in Mendelian genetics.—H. D. Spoerl (American International College).

1350. Brunton, P. The quest of the overself. New York: Dutton, 1938. Pp. 304. \$3.00.—On the practical western application of the Oriental method of psychospiritual self-analysis.—R. R. Willoughby (Brown).

1351. Erickson, M. H. The experimental demonstration of unconscious mentation by automatic writing. *Psychoanal. Quart.*, 1937, **6**, 513-529.—Report is given of two experiments in which, by automatic writing, it was possible to demonstrate clearly that consciously chosen words, thoughts and acts can mean more than one thing at a time: their conscious or manifest content on the one hand, and a latent unconscious content on the other. Discussion is offered of the psychic dynamisms employed by the experimental subjects to accomplish the experimental problem of performing a conscious task possessing another (unconscious) meaning; emphasis is placed upon the need for an experimental approach to the

problems of psychic dynamisms; and parallels are drawn between the experimental behavior manifested and similar manifestations found in the psychoanalysis of neurotic problems.—M. H. Erickson (Eloise Hospital).

1352. Fenichel, O. Frühe Entwicklungsstadien des Ichs. (Early development of the ego.) *Imago, Lpz.*, 1937, **23**, 243-269.—Numerous special studies of the various aspects of the problem are cited in this general survey of the theory of the genesis of the ego. The gradualness of development and the presence of predispositions are emphasized. The conception of "primary" object-love is rejected on the ground that objectivity is not adequately experienced during its alleged earlier activity.—H. D. Spoerl (American International College).

1353. Fenichel, O. Der Begriff "Trauma" in der heutigen psychoanalytischen Neurosenlehre. (The concept of trauma in the contemporary psychoanalytic theory of the neurosis.) *Int. Z. Psychoanal.*, 1937, **23**, 339-359.—A neurosis is the motor discharge of dammed-up impulsive energy. The classic psychoanalytic conception distinguishes between two types: (1) the psychoneurosis, brought about by a lessened opportunity for discharge, due to dread of the outer world or to inhibition by the super-ego; and (2) the traumatic neurosis, due to the sudden overwhelming accumulation of impulses which cannot be immediately discharged and which, as with the psychoneurosis, overflow into the vegetative system. This distinction, in the author's opinion, is not well-founded; all neuroses present, to some extent, combination pictures. The war neuroses, for example, are excellent illustrations of presumably real traumatic neuroses which have been shown to be intimately associated with personality conflicts. The same holds true for the psychoneuroses. These may be regarded as special cases of traumatic neuroses, inasmuch as the motif present in all damming-up of impulsive energy is, in the last analysis, anxiety or the fear of some possible catastrophe. In this sense a psychoneurosis is a form of remembrance of some previously experienced trauma.—H. J. Wegrocki (Minnesota).

1354. Freud, S. Analysis terminable and interminable. *Int. J. Psycho-Anal.*, 1937, **18**, 373-405.—Translation; see XI: 5075.—M. H. Erickson (Eloise Hospital).

1355. Glover, E. [Ed.] Korrespondenzblatt der Int. Psychoanal. Vereinigung. (Reports of the International Psychoanalytic Association.) *Int. Z. Psychoanal.*, 1937, **23**, 453-458.—Statistics on the number and types of cases treated by members of the Berlin, London, Chicago, Paris, Vienna, and Budapest clinics are included. The following are among the latest developments in the clinical administration of psychoanalysis: the first French psychoanalytic clinic has been opened in Paris; the Psychoanalytic Institute in Berlin has changed its name to "The German Institute for Psychological Research and Psychotherapy"; E. Jones resigned the directorship of the London psychoanalytic clinic on its tenth anniversary, and was

succeeded by E. Glover.—*H. J. Wegrocki* (Minnesota).

1356. **Hitschmann, E.** *Bemerkungen über Platzangst und andere neurotische Angstzustände.* (Remarks on agoraphobia and other neurotic anxiety states.) *Int. Z. Psychoanal.*, 1937, 23, 393-401.—The author considers five neurotic anxiety states: pavor nocturnus, animal phobia, the compulsive fear of death of the like-sexed parent, hysterical death anxiety, and agoraphobia. The genetic matrix of all these is found in an unresolved Oedipus complex, in guilt feeling because of aggression, and in fear of death because of the repressed murderous impulse against the like-sexed parent. Light symptoms of similar psychogenesis are to be found in most normals.—*H. J. Wegrocki* (Minnesota).

1357. **Hovland, C. I.** *Differences in resolution of approach-approach and avoidance-avoidance conflicts.* *Psychol. Bull.*, 1937, 34, 719.—Abstract.—*R. H. Brown* (Clark).

1358. **Jacobsohn, E.** *Wege der weiblichen Über-Ich-Bildung.* (Stages in feminine super-ego development.) *Int. Z. Psychoanal.*, 1937, 23, 402-412.—The first stage in feminine super-ego development is a consequence of "the inheritance of the negative Oedipus complex" inasmuch as it is with the dawn of the pre-oedipal mother attachment that the super-ego becomes maternal-phallic. This is followed, in the female child, by a period of acute consciousness of being "castrated." Ego-ideals are built up in this later stage, and the first ego-ideal, determined as it is by the "castration experience," is designed to fight the oral-sadistic and phallic aggressive impulses which constantly appear and are directed against the parents, particularly the mother.—*H. J. Wegrocki* (Minnesota).

1359. **Jung, C. G.** *Die Beziehungen zwischen dem Ich und dem Unbewussten.* (The relationships between the ego and the unconscious.) (2nd ed.) Zürich: Rascher, 1935. Pp. 208. M 2.85.—This restatement of the most important results of Jung's studies is also an amplification of his *Psychological Types*. In so far as one may speak of his "theory" or "school," the best exposition is found in these two books. He insists on the racial conditioning of the psychic and the consequent differences in the collective unconscious.—*R. Kienle* (Esslingen).

1360. **Katan-Angel, A.** *Die Rolle der "Verschiebung" bei der Strassenangst.* (The role of displacement in street anxiety.) *Int. Z. Psychoanal.*, 1937, 23, 376-392.—The writer finds that the vague anxiety associated with streets is a phenomenon quite commonly encountered during the pubertal development of girls. Of similarly frequent occurrence is the presence of prostitution fantasies. Both these, she believes, are transitory symptoms which, while they represent a defense reaction, serve the function of disengaging the libido from its incestuous cathexis preparatory to its displacement upon extra-familial objects.—*H. J. Wegrocki* (Minnesota).

1361. **Knight, R. P.** *Zur Dynamik und Therapie des chronischen Alkoholismus.* (Dynamics and

therapy of chronic alcoholism.) *Int. Z. Psychoanal.*, 1937, 23, 429-442.—Alcoholism should be looked upon more as a symptom than as an illness in itself. In the regression which it engenders, unconscious libidinous and sadistic impulses find their expression. Examination of alcoholics shows that in the majority of the cases an over-solicitous mother opposed a too harsh and cold father. Alcoholism represents, essentially, an attempt to return to this early stage of mother-dependence where oral gratification predominated. The author distinguishes between alcoholic personality and the chronic alcoholic. These can be differentiated only through an analysis. The first can never be retrained to drink in moderation; either he drinks to excess or, if cured, not at all. The chronic type, on the other hand, can be trained to restrict his drinking. As for the meager number of female alcoholics as compared with the male, the author concludes that the woman has more possibility of gratifying, in a socially approved sublimation, the passivity which the potential male homosexual satisfies through drinking.—*H. J. Wegrocki* (Minnesota).

1362. **Kovsharova, T. V.** *An attempt at an experimental investigation of psychoanalytic therapy.* *Psychoanal. Quart.*, 1937, 6, 426-452.—An experimental investigation of psychoanalytic therapy was attempted by a technique of conditioned responses to light and sound. The conclusions reached were: that analytic therapy increases cortical tonus; that the alternations of periods of resistance with periods of abreaction are reflected respectively by decreased or increased cortical tonus; that the changes in tonus permit the postulation of a definite functionally localized pathodynamic structure in the cortex caused by the impact of excitation or inhibition; that in the beginning of the analysis there is a stimulation of the complex area of the cortex, with the stimulation finally radiating to extra-complex regions of the cortex; and finally that the specificity of analytic therapy consists in the release of the cortex from the pathodynamic mental structures present in it, accomplished by activation of their intrinsic stimulation potentialities.—*M. H. Erickson* (Eloise Hospital).

1363. **Kubie, L. S.** *The fantasy of dirt.* *Psychoanal. Quart.*, 1937, 6, 388-425.—Description is given of the complex system of fantasies related to the reality of dirt which manifest themselves both in the structure of the neurosis and in many significant aspects of normal adult life. Topic headings under which discussion is given are as follows: "The Body as a Dirt Factory: Protection of the Outsides from the Insides"; "The Unconscious Hierarchies of Dirt"; "The Taboo on the Apertures"; "Compulsive Cosmetic Compensations in Woman"; "The Forbidden Interest in Excretory Functions"; "The Relation to Unreality Feelings in Women"; "Genitals as Excrement"; "Sociological Significance: The Stratification of Society"; "Family Pride and Shame"; "Critical Review of the Treatment of the Concept of Dirt in Psychoanalytic Literature"; "Redescription of the Development of Excretory Habits and

Attitudes"; "The Significance of the Change from the Diaper to the Pot"; "The Significance of the Warning against Excrement for the Evolution of the Dirt Fantasy"; "Dirt Fantasies vs. Mutilation Fantasies in the Development of Obsessional Traits"; "Anthropological Theory"; "The Psychosexual Implications of the Dirt Fantasy"; "Relation to Social Inhibitions." A 26-item bibliography is appended.—*M. H. Erickson* (Eloise Hospital).

1364. **Lasswell, H. D.** *Veränderungen an einer Versuchsperson während einer kurzen Folge von psychoanalytischen Interviews.* (Changes in an experimental subject during a short series of psychoanalytical interviews.) *Imago, Lpz.*, 1937, 23, 375-380.—During a series of psychoanalytical interviews, rather than a complete analysis, measures were made of the following activities: pulse, blood pressure, bodily movement, rate and amount of speech, electrical skin resistance. For the 45 sessions tabulated there was steady and significant increase in all measures. "Changes in active (conscious) affects are closely connected with changes in pulse rate, and changes of (unconscious) tension with changes in electrical response of the skin." Pulse and dermal activity are also correlated. The patient, initially extremely distracted, improved steadily in insight, control, and purpose.—*H. D. Spoerl* (American International College).

1365. **Lorand, S.** *Fairy tales, Lilliputian dreams, and neurosis.* *Amer. J. Orthopsychiat.*, 1937, 7, 456-464.—The author presents the dream material of three patients, which was concerned with fairy-tale creatures, and discusses the strikingly different reactions of the dreamers to their dreams.—*E. D. Hunt* (Brown).

1366. **Marguglio, D.** *Spiritismo, metapsichica e psicobiofisica.* (Spiritualism, metapsychical and psychobiophysical.) *Riv. sanit. sicil.*, 1936, No. 3, 126-137.—A synthetic review.—*L. Canestrelli* (Rome).

1367. **Navarro, A.** *Las doctrinas de Freud: Freud, Janet y von Monakow.* (The doctrine of Freud: Freud, Janet and von Monakow.) *Rev. Psiquiat. Disc. conex.*, 1937, 2, No. 6.—*R. R. Willoughby* (Brown).

1368. **Schmid, G.** *Die Gesetzmässigkeiten des Traumlebens.* (Regularities of dream life.) *Z. Psychol.*, 1935, 135, 226-258.—After an examination of "thousands" of dreams during the course of several years, the author concludes that dreams are not unconscious wish-fulfillments of a sexual nature (Freud), unconscious amplifications or corrections of conscious activity (Jung), or prophesies (folk beliefs), but that they are memory phenomena, i.e., reproductions during sleep of affectively associated experiences of actual life, usually with the aid of symbols which are themselves closely linked to affective experiences.—*G. F. J. Lehner* (Brown).

1369. **Schmid, G.** *Die Gesetzmässigkeiten des Traumlebens. II. Das emotionale Gedächtnis als Grundtatsache des Traumlebens.* (Regularities of

dream life. II. Emotional memory as the basis for dreams.) *Z. Psychol.*, 1935, 136, 71-115.—The author, largely through discussion of case histories, here gives the material upon the basis of which he adjudges dreams to be expressions of emotional memory.—*G. F. J. Lehner* (Brown).

1370. **Stuart, C. E., & Pratt, J. G.** *Experimental set for testing extra-sensory perception.* New York: Farrar & Rinehart, 1937. \$1.75.—This boxed set of materials developed at Duke University Parapsychology Laboratory in connection with the experiments described in J. B. Rhine's *New Frontiers of the Mind* contains *A Handbook for Testing Extra-sensory Perception* by Stuart and Pratt, a record pad, and two packs of ESP cards.—*R. R. Willoughby* (Brown).

1371. **Velikovsky, I.** *Psychic anaphylaxis and somatic determination of the affects.* *Brit. J. med. Psychol.*, 1937, 17, 98-104.—Psychic anaphylaxis refers to the sensitization to an agent which causes a second reaction to be more violent than the first reaction. A patient with asthma was psychoanalyzed. The symptoms were related to a forgotten childhood experience in which the patient had nearly drowned. Fear is not inseparably bound up with any physical expression, and the ordinarily associated somatic signs can be replaced by others. In this case, spastic respiration expressed the patient's fear, although he was not aware of being afraid.—*E. R. Hilgard* (Stanford).

1372. **Velikovsky, I.** *Zu Tolstois Kreutzersonate.* (Note on Tolstoi's *Kreutzer Sonata*.) *Imago, Lpz.*, 1937, 23, 363-370.—Study of the character Posdnischew in Tolstoi's novel reveals clearly the development of a conflict based on unconscious homosexuality. Numerous clinical conceptions and observations are highly relevant to the fictional account. Tolstoi was himself projecting a similar conflict in his work; this conclusion is supported by interpretation of his doctrines of living.—*H. D. Spoerl* (American International College).

1373. **Wälder, R.** *The problem of the genesis of psychical conflict in earliest infancy.* *Int. J. Psychoanal.*, 1937, 18, 406-473.—The author reviews the trends in psychoanalytic theory contained in recent contributions by various authors. He lists the following points in common: (1) experiences of the individual during infancy, including the first year, are knowable by analytic observation or inference; (2) infancy experiences are describable in terms of mental life; (3) they are of greater importance than subsequent experience; (4) fantasy or activity comparable to fantasy is present in infancy; (5) instinctual processes are governed by oral-sadistic impulses and ego mechanisms by introjection and projection, with a marked interrelationship of instinctual and ego aspects of experience; and (6) the living process is predetermined and may only be accelerated or retarded by environmental forces. These theoretical trends and their basic assumptions are then discussed critically in relationship to: (1) the sources of knowledge of infancy experiences, (2)



the criteria of interpretation, (3) the formation of the super-ego, (4) fantasy and reality, (5) early ego development, (6) the importance of the "deep" unconscious, and (7) the relationship of the "deep" unconscious to psychic strata nearer consciousness. The author concludes: "We doubt whether we have sufficient clues to enable us to infer the experiences of earliest infancy with that degree of certainty which we commonly look for or whether we can claim any degree of scientific accuracy for detailed conclusions about them. Finally, we cannot but feel that an excursion has been made into the shadowy past, while much that could be more satisfactorily proved and that is indispensable for analysis has been left unregarded."—*M. H. Erickson* (Eloise Hospital).

1374. Wittels, F. *Die libidinöse Struktur des kriminellen Psychopathen.* (The libidinous structure of the criminal psychopath.) *Int. Z. Psychoanal.*, 1937, 23, 360-375.—Unlike the neurotic psychopath, who because of his sexual bipolarity lives in a world of constant anxiety, the criminal psychopath enjoys his phallic-narcissistic pleasure potentialities. Fixated as he is in the primary phallic phase, his super-ego develops a character quite different from that found in the neurotic psychopath. That bit of the aggressive impulse which normally is transmuted into super-ego is never felt as conscience in the psychopath. He experiences aggressions as coming from without, not from within. The therapy of the psychopath must therefore be quite unique; the attempt must be made, not to develop a normal super-ego in him, but to find an adequate external super-ego substitute.—*H. J. Wegrocki* (Minnesota).

1375. Young, P. C. *The veridicality of hypnotically induced regression.* *Psychol. Bull.*, 1937, 34, 784.—Abstract.—*R. H. Brown* (Clark).

[See also abstracts 1019, 1039, 1055, 1224, 1226, 1318, 1426, 1550, 1581.]

## FUNCTIONAL DISORDERS

1376. Altman, C. H., & Shakow, D. *A comparison of the performance of matched groups of schizophrenic patients, normal subjects, and delinquent subjects on some aspects of the Stanford Binet.* *J. educ. Psychol.*, 1937, 28, 519-529.—The study compares the vocabulary level with the general intellectual level in psychotic and non-psychotic subjects. The groups of schizophrenic, normal, and adult delinquent subjects were matched for mental age on the Stanford Binet test, and separate groups were assigned to uncoöperative subjects. The scores on the vocabulary test and on the remainder of the test were expressed as  $\sigma$ -scores, and the difference between these  $\sigma$ -scores was termed the "discrepancy score." Schizophrenics were found to have higher discrepancy scores than either normal or delinquent subjects. No association between discrepancy scores and three criteria of deterioration was found. It is suggested that the scores may measure some aspect of "thinking disturbance" in schizophrenics.—*A. W. Melton* (Missouri).

1377. Armonier, G. *Symptomatische Psychosen im Gefolge von Nierenkrankheiten.* (Symptomatic psychoses as a sequel to kidney diseases.) Berlin: Begach, 1937. Pp. 36.—*R. R. Willoughby* (Brown).

1378. Baker, B. W. *Administrative policies, past and present.* *Proc. Amer. Ass. ment. Def.*, 1937, 42, 149-159.—A history is presented of the care of the feeble-minded in the United States. This country's first public institution for the mentally diseased was opened in 1773 by the state of Virginia. In 1848 the first state institution for the feeble-minded was established. At present over 500,000 insane, mental defectives and epileptics are cared for in public institutions and hospitals. Cleveland in 1881 established the first special school for mentally deficient children. In 1922 Massachusetts passed a law sanctioning parole of feeble-minded after experience had shown that certain boys and girls were employable under supervision. The question is raised whether ethical standards in medical practice are interpreted rightly when used to defend the production of mental disease and mental deficiency. Since in the majority of cases mental deficiency is due to inferior inheritance, such source of supply must be purified. Hope lies in education. School children should be taught that defective brain structure manifests itself in defective mentality. American youth must be taught how to breed healthier men and women, and that the world has no need of the moron. State institutions as such cannot be depended upon in the future greatly to lessen the reproduction of mental defectives in the community.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1379. Balduzzi, O. *L'origine cerebropatica delle psiconeurosi. Fondamenti per una dottrina organicista.* (The cerebropathic origin of psychoneuroses. Foundations for an organicist doctrine.) *Riv. sper. Freniat.*, 1936, 60, 151-168.—The author presents clinical and pathogenetic criteria whereby psychoneuroses should be interpreted as expressions of an organic cerebropathic origin rather than as manifestations of functional psychological anomalies.—*L. Canestrelli* (Rome).

1380. Berlucchi, C. *Il problema generale dei disturbi psico-motori dal punto di vista clinico.* (The general problem of psychomotor disorders from the clinical point of view.) *Riv. sper. Freniat.*, 1937, 61, 5-17.—The author emphasizes the importance of an examination of bodily movements for the study of psychological facts in the field of neuropathology and psychiatry. However, in order to understand better the complex relations existing between psychological factors and muscular function, we must abandon the faulty and inadequate conception of fixed and pre-existent kinetic formulae imprinted here and there on the nerve centers, and study, by the more convenient methods of physiological techniques, the simplest elements of the muscular function and compare their modifications with the nerve lesions.—*L. Canestrelli* (Rome).

1381. Bivin, G. D., & Klinger, M. P. *Pseudocyesis.* Bloomington, Ind.: Principia Press, 1937.

Pp. vii + 265. \$4.00.—Pseudocyesis or spurious pregnancy is a condition in which the signs and conditions of true pregnancy are simulated in whole or in part. Data on 444 cases and detailed tables are given, with respect to the type of symptomatology. The relationship of age, marital status, and previous false pregnancies is enlarged upon and supplemented by statistical data. The etiological aspects are discussed from the psychological and physical points of view. The wish to become pregnant is the most frequent factor found; the next is "hysteria"; the third, fear. Brief case histories are given to elaborate the points made. In the conclusions is found the statement, "In this study we make no pretense of adding anything new to the literature of pseudocyesis"; "We believe we can offer a better description of this neglected condition than has hitherto been available." A bibliography is appended, consisting of approximately 275 references, and an author and subject index conclude the volume.—*C. P. Fitzpatrick* (Butler Hospital).

1382. Bleyer, A. The role of advancing maternal age in mongolism: a study of 2822 cases. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 111-123.—The major part of the mongoloid populations of institutions in this country and in Canada are included in this study. The author found that the role of advanced maternal age is undeniable in mongolism. The peak maternal age in the general population in this country in 1934 was twenty-four; that of the mongoloid-producing mothers in this series of cases was forty-one. The likelihood of producing a mongoloid imbecile increases in direct proportion to the number of menstrual cycles through which a woman has passed. The number of mongoloids appearing in each quinquennium of maternal age is compared with the number of children born in similar age groups of the general population. "Satisfactory evidence of the competence of the following factors in relation to the etiology of mongolism could not be found: advanced paternal age, immaturity of either parent, primogeniture, ultimogeniture, birth rank, the broad difference in the ages of the parents, the prolonged interval preceding the birth of the mongoloid, low fertility, and reproductive exhaustion of either parent." A bibliography is appended.—*M. W. Kuensel* (Children's Home, Cincinnati).

1383. Bowman, K. M. Types and special factors of mental illness in old age. In *Various, Mental hygiene in old age*. New York: Family Welfare Association, 1937. Pp. 32-38. \$4.00.—The types of mental illness which occur most frequently in old age are discussed.—*M. Keller* (Brown).

1384. Bradley, K. P. Social competence of exceptional children. II. The mentally subnormal. *J. except. Child.*, 1937, 4, 38-42.—The existence of both intellectually subnormal and feeble-minded children has been recognized for some time. The Vineland social maturity scale provides an opportunity to differentiate accurately between the two groups. The author presents the results of a social competence survey of 300 feeble-minded wards at

Vineland, finds significant differences in the social competence of feeble-minded and intellectually subnormal children, and presents comparisons between Binet MA and SQ (social quotient).—*L. A. Averill* (Worcester Teachers College).

1385. Brown, A. W. The influence of thyroid treatment upon the mental growth of cretins. *Psychol. Bull.*, 1937, 34, 777-778.—Abstract.—*R. H. Brown* (Clark).

1386. Burrow, T. The organismic factor in disorders of behavior. *J. Psychol.*, 1937, 4, 333-341.—Man has a common basis with all other living organisms in protoplasm, the universal organismic principle. While the acquirement of language has made man different from these other organisms and has apparently some bearing upon the widespread incidence of his behavior disorders, it is not language itself which produces the disorders. "Long and careful investigation (has) finally made possible the discovery that there have been induced in the organism of man inimical, unassimilable tensions and alterations concomitant with his employment of the symbol." Conflict, therefore, is conceived as physiological, not as mental. "As the cause of this anomaly in man's processes is a physiological and organismic one, it is suggested that students of behavior apply to the behavior of man's organism the same objective methods of observation which students in other fields of biology have applied to the examination of their material."—*J. McV. Hunt* (Brown).

1387. Calzavara, G. Qualche rilievo statistico sulla ereditarietà generica nelle psicosi circolari. (Some statistical considerations on generic inheritance in recurrent psychoses.) *Atti Lega ital. Igiene Profil. ment.*, 1936, 79-82.—*L. Canestrelli* (Rome).

1388. Carroll, D., Hubert, W. H. deB., Rees, J. R., & Woodcock, O. H. The unwilling patient. *Brit. J. med. Psychol.*, 1937, 17, 54-77.—Four papers are presented, followed by discussion (by C. Scott, E. A. Bennet, P. Brown, and J. Rickman). Carroll considers the conscious unwillingness to be treated in patients who have been coerced into visiting a psychiatrist. These include delinquents forced into the presence of the psychiatrist, and non-delinquents (including children) who are maneuvered into treatment. The paper is concerned with the delinquent groups. Hubert uses the homosexual to illustrate the unwillingness of the delinquent to be treated for a practice he finds satisfying. Rees points out that the confusion of treatment with punishment is one of the greatest barriers in handling court cases. Woodcock considers several cases placed on probation by police courts and referred to the Institute for the Scientific Treatment of Delinquency.—*E. R. Hilgard* (Stanford).

1389. Coen, A. L'eredità delle malattie mentali studiata in un gruppo etnico poco inquinato. Ebrei di Mantova. (Inheritance of mental diseases in a relatively pure ethnic group, the Hebrews in Mantua.) *Atti Lega ital. Igiene Profil. ment.*, 1936, 83-85.—While studying this ethnic group, the author observed a frequent repetition of mental diseases in

descendants of diseased individuals, the repetition appearing to be generic and not specific for the various diseases. Since the influence of the environment was apparent on the recurrence of these disorders and the hereditary element seemed to be manifested as a tendency rather than as the appearance of the disease as a unit, the author emphasizes the possibility of extensive useful action involving modifications in the environment, prenatal care, and preventive treatment against continuation of these psychological defects in coming generations.—*L. Canestrelli* (Rome).

1390. **Cohen, L. H., & Patterson, M.** Effect of pain on heart rate of normal and schizophrenic individuals. *J. gen. Psychol.*, 1937, 17, 273-289.—From each of 10 normal and 10 schizophrenic subjects a continuous record of heart rate was obtained by means of a Boas cardiograph. Both normal and schizophrenic subjects showed an elevated rate at the beginning of the sessions, even before the presentation of pain. This indicated that the situation itself was sufficient to induce tension. Normal subjects soon adapted to the experimental situation, but schizophrenics continued to show the elevated rate. Average values showed no increase in heart rate in response to pain, but individual subjects showed changes. Those subjects who showed a decrease in heart rate also showed respiratory and gross motor reactions, while those who showed an increased rate usually gave accompanying verbal responses. There were at least 6 different types of reaction to pain. Schizophrenics showed more different types than did normal subjects. Changes in heart rate which occurred during and between sessions are discussed at length.—*H. Schlosberg* (Brown).

1391. **Curtis, Q. F.** Experimental neurosis in the pig. *Psychol. Bull.*, 1937, 34, 723.—Abstract.—*R. H. Brown* (Clark).

1392. **Davidson, M.** A study of schizophrenic performance on the Stanford-Binet scale. *Brit. J. med. Psychol.*, 1937, 17, 93-97.—Results of Binet tests on 71 schizophrenic patients in Ontario mental hospitals are compared with those of a normal control group of 202 individuals of the same age range. The schizophrenic patients showed a mean difference between the vocabulary score and the remainder of the Binet test of 30.4 months ( $\sigma_m = 2.9$ ), while the controls showed a difference of only 3.6 months ( $\sigma_m = 1.2$ ). This reliable difference confirms the findings of other investigators. The schizophrenic vocabulary score remains relatively constant as the mental age based on the other Binet tests deteriorates.—*E. R. Hilgard* (Stanford).

1393. **De Gaetano, R.** L'evoluzione della terapia di occupazione negli ammalati di mente. (The evolution of occupational therapy for the insane.) *Osp. psichiat.*, 1935, No. 4, 785-797.—*L. Canestrelli* (Rome).

1394. **Del Greco, F.** Mentalità e psicopatie. (Mentality and psychopathies.) *Ann. Osp. psichiat. Perugia*, 1935, No. 1-2, 1-12.—The author discusses

various writings and intellectual works from which some diagnosticians tend to infer the insanity or psychodegeneration of the writers. He describes the method to be used for arriving, if possible, at a true diagnosis and the difficulties to be met if one does not wish to obtain results of little or no importance.—*L. Canestrelli* (Rome).

1395. **Del Greco, F.** Sugli anormali istintivi. (Note di caraterologia patologica e normale.) (On abnormal instinctive behavior. Remarks on pathological and normal characterology.) *Ann. Osp. psichiat. Perugia*, 1936, No. 1, 1-17.—Serious changes in instinctive behavior should be studied according to clinical individual and etiological methods. In general these abnormalities are not isolated, but are found embedded in normal somato-psychological patterns. The author takes up other characterological forms which show changes in instinctive behavior which may be slight, disguised, or entirely concealed. He concludes with a discussion of the psychological internal development of several human types.—*L. Canestrelli* (Rome).

1396. **Doll, E. A.** The institution as a foster parent. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 143-148.—Questions of policy of institutional administration and training are discussed in relation to the social competence of patients and wards. Special reference is made to policies found in institutions for the feeble-minded. Modern institutions should be thought of as treatment centers where the particular difficulties which precipitated sending these patients to the institution will temporarily be assumed and ultimately overcome by training. These institutions surpass the average family in material advantages, but are "gravely behind standards of family care in terms of personal solicitude and individual freedom." Administrators should scrutinize their conditions of institutional regimentation in relation to the capabilities and needs of individual patients in order to plan programs of training such as will prepare them to leave the institution.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1397. **Doll, E. A., & Longwell, S. G.** Social competence of the feeble-minded under extra-institutional care. *Psychiat. Quart.*, 1927, 11, 450-464.—Since it is impracticable to place all the feeble-minded under institutional care, it is desirable to develop extra-institutional programs to provide social supervision and conditions of living in the community which will render the feeble-minded most effective at the least cost and the least hazard. Application of the Vineland social maturity scale indicates that feeble-minded patients under certain types of extra-institutional care have social ages significantly above their mental ages and appreciably more so than for the feeble-minded in general, and it is hoped that the use of this scale will increase the efficiency of selecting such patients. There is good reason to assume that extra-institutional placement capitalizes competence to better advantage than does institutional care in some directions, and possibly less in others, but the extent of these differences is



not clear from this preliminary investigation.—C. R. Atwell (Boston Psychopathic Hospital).

1398. D'Ormea, A., & Centini, -. *Considerazioni clinico-genealogiche sulla frenosi maniaco-depressiva*. (Clinico-genealogical considerations on the manic-depressive psychosis.) *Atti Lega ital. Igiene Profil. ment.*, 1936, 48-51.—The manic-depressive psychosis is an inherited malady of a recessive character. For this reason the eugenicist cannot expect to suppress it through forced sterilization.—L. Canestrelli (Rome).

1399. Durfee, C. H. *To drink or not to drink*. New York: Longmans, Green, 1937. Pp. ix + 212. \$2.00.—The author here treats of the man or woman whose drinking is not a matter of choice, but of inner necessity. "The purpose of this book is threefold: to show alcoholism in a new light, as the result not of sin but sickness, and that sickness psychological; to describe its cure on a basis not of physical restraint but mental liberation; and to suggest preventive measures for the individual and for society as a whole."—E. D. Hunt (Brown).

1400. Earl, C. J. C. *The performance test behaviour of adult morons*. *Brit. J. med. Psychol.*, 1937, 17, 78-92.—Qualitative characteristics of test performance are stressed. Adult morons fall into three groups—the excitable, the integrated, and the inhibited.—E. R. Hilgard (Stanford).

1401. Fattovich, G., & Niccolai, N. *Considerazioni sull'ereditarietà in alcuni casi di psicosi maniaco-depressiva*. (Considerations on heredity in certain cases of manic-depressive psychoses.) *Atti Lega ital. Igiene Profil. ment.*, 1936, 33-39.—L. Canestrelli (Rome).

1402. Fisher, G. *Mental hygiene problems as they emerge in old age security*. In *Various, Mental hygiene in old age*. New York: Family Welfare Association, 1937. Pp. 27-31. \$4.00.—The mental hygiene problems of old age may be divided into three groups: (1) problems caused by the special tensions which changes in our social structure have placed upon those 65 years of age and over; (2) problems created by the fact of dependency; and (3) those problems of personal maladjustment which have their roots in the past life of the individual and are caused neither by old age nor by economic dependency.—M. Keller (Brown).

1403. Ford, F. R. *Diseases of the nervous system in infancy, childhood and adolescence*. Springfield, Ill.: Thomas, 1937. Pp. 953. \$8.50.—R. R. Willoughby (Brown).

1404. Frankel, E. *The need for standardization of laws governing the mentally deficient*. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 67-77.—State laws governing mental deficiency vary greatly. Preliminary to a projected analysis of all existing laws the author sent a questionnaire to experienced members of the Association asking their advice about the satisfactoriness of the laws in their states and about the contents of what might be proposed as a comprehensive law governing mental deficient. This information has been analyzed and grouped

around points of a generally accepted program for the social control of mental deficient. Topics discussed include those of definition, identification and registration, certification, central admitting agency, commitment procedures, public school instruction, institutional care and training, parole and discharge, organized community supervision including marriage laws and eugenic sterilization, and central state supervision.—M. W. Kuenzel (Children's Home, Cincinnati).

1405. Friedman, E. *The irritative therapy of schizophrenia*. *N. Y. St. J. Med.*, 1937, 37, 1813-1821.—The irritative therapy is an induction of a toxic deliriform state brought on by camphor and metrazol. Metrazol brings on an immediate epileptiform convulsion with anxiety, terror, and large responses of the whole autonomic nervous system. After about ten convulsive reactions there is noted a fragmentation of the sensorium and apathy which persists until two weeks after the last injection. Out of 40 cases of schizophrenia treated, 31 displayed remissive changes, which in all but 3 cases have persisted from about three months to one year. 4 were somewhat improved and 5 were unaffected by the treatment.—E. Friedman (Ossining, N. Y.).

1406. Fumarola, G., & Moglie, G. *La terapia delle malattie nervose e mentali*. (The therapy of nervous and mental diseases.) Rome: Pozzi, 1936. Pp. xv + 758. L. 75.—The book was written in collaboration with C. Enderle, D. Pisani, and F. Sabatucci, with a preface by U. Cerletti.—L. Canestrelli (Rome).

1407. Giorgi, G. *Il sistema neuro-vegetativo nelle sindromi mentali e sua importanza nel problema dei rapporti fra emozione e psiconevrosi*. (The neuro-vegetative system in mental syndromes and its importance in problems of the relationship between emotion and psychoneuroses.) *Riv. Pat. Nerv. ment.*, 1936, No. 2, 306-333.—The author gives the pharmacological tests used in a group of mental syndromes and the clinical observations, and presents evidence on the frequency with which vegetative dystonia is found in such patients. In addition he gives the distribution data for various conditions of equilibrium of the neuro-vegetative system in relation to some of the principal mental states. He demonstrates the existence of a peculiar parallelism between the emotional affective states and a special sympathicotonia or amphotony, bringing out the fact that the anamnestic data on emotions coincide with hypertonic vegetative states. He offers a hypothesis concerning the part probably played by the vegetative nervous system in relation to a given anamnestic emotion, with special reference to the rise of phenomena of a pathological character.—L. Canestrelli (Rome).

1408. Gozzano, M. *Bioelektrische Erscheinungen bei der Reflexepilepsie*. (Bio-electric manifestations in reflex epilepsy.) *J. Psychol. Neurol., Lpz.*, 1936, 47, 24-39.—(*Biol. Abstr.* XI: 16264).

1409. Grünghoff, H. *Über die Möglichkeit exogener Auslösung von endogenen Psychosen*. (On

the possibility of exogenous resolution of endogenous psychoses.) Königsberg: (Phil. Diss.), 1936. Pp. 16.—R. R. Willoughby (Brown).

1410. Greene, E. B. Abnormal adjustments to experimental situations. *Psychol. Bull.*, 1937, 34, 747-748.—Abstract.—R. H. Brown (Clark).

1411. Gruhle, H. W. *Grundriss der Psychiatrie*. (Outline of psychiatry.) Berlin: Springer, 1937. Pp. 166. M. 4.80.—R. R. Willoughby (Brown).

1412. Guttman, E. Psychological implications of functional circulatory disorder. *J. ment. Sci.*, 1937, 83, 542-550.—Hysterical reactions, anxiety states, vasomotor neuroses, amnesia resulting from blows, and studies of blood pressure in relation to type of neurosis have been considered in relation to circulatory disorders. Examples can be found illustrating each of the three theoretically possible types of relationship: (1) the mental symptoms are a result of awareness of the physical symptoms; (2) an emotion produces both the mental and the vasomotor symptoms; (3) "similar or identical vascular crises co-occur in the extremities and in the brain."—C. J. Herrick (Pennsylvania).

1413. Halliday, J. L. Approach to asthma. *Brit. J. med. Psychol.*, 1937, 17, 1-47.—Case records are given of 30 individuals. Psychological factors were prevalent at the time of the first appearance of the asthmatic symptoms. After summaries and comments, the author concludes: "An understanding of the importance and potency of the environment in its psychological aspects is a necessary prelude to any practical steps directed toward the scientific prevention of secondary attacks and of asthmatic invalidism."—E. R. Hilgard (Stanford).

1414. Hanse, —. *Krankheit und Persönlichkeitsgefüge*. (Disease and personality structure.) *Hippokrates, Stuttgart*, 1937, 249-253.—230 patients with diseases of the various organ systems were studied for the relationship between disease and personality. 100 belonged to the hyperergic B type, "animated by feeling." They all were especially susceptible to cardiovascular disease. In the opposite T type, the repressed allergics, spastic conditions predominated. The last group comprised 50 patients of the "evasive" hypoergic type, among whom the leptosome build, and particularly its childish-asthenic forms, was prominent, as well as the lax dysplastics with insufficient endocrine regulation.—P. L. Krieger (Leipzig).

1415. Hartwell, S. W. Present crisis in social relationships. *Amer. J. Psychiat.*, 1937, 94, 379-392.—The role which should be played by the psychiatrist in the community, and his responsibility to society, are discussed.—R. Goldman (Boston Psychopathic Hospital).

1416. Haslerud, G. M. Effect of three kinds of frustration upon behavior of young and adult chimpanzees. *Psychol. Bull.*, 1937, 34, 721-722.—Abstract.—R. H. Brown (Clark).

1417. Hatzold, K. Die Zusammenhänge zwischen Formanomalien der Zähne und erblichen

Geistesstörungen. (The correlation between form anomalies of the teeth and heredity mental diseases.) Erlangen: K. Döres, 1937. Pp. 46.—R. R. Willoughby (Brown).

1418. Heidenhain, A. *Die Psychiatrie im Dienste der Wehrmacht*. (Psychiatry in the service of the army.) *Fortschr. Neurol. Psychiat.*, 1937, 9, 505-516.—This is a study of the incidence of various diseases to be found among the members of the German army. There is also a short history of the growth of medical and psychiatric clinics for army use in the early part of the century. There are tables showing the frequency of various diseases. Nervous and mental disturbances are relatively low in numbers as compared with infectious diseases. In addition to statistical results the author gives some case illustrations of types of mental disease found.—D. S. Oberlin (Delaware State Hospital).

1419. Holsopple, J. Q. Personality, intelligence and socialization. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 101-106.—Use of unclear, non-technical concepts in connection with intelligence, personality and socialization is disapproved. A serious schism has developed between psychological laboratories on the one hand and those social institutions making use of psychological services on the other hand. A plea is made to institutional psychologists for clearer thinking and for application of psychological principles learned as a part of their professional instruction.—M. W. Kuensel (Children's Home, Cincinnati).

1420. Humensky, J. J. *Chaplain service in a mental hospital*. Washington, D. C.: Catholic Univ. America, 1937. Pp. iii + 178. \$2.00.—A doctor's dissertation attempting to evaluate the pastoral service of the author with 45 mental hospital patients. He divides his patients into three groups: those with moral conflicts, those with abnormal interest or experiences in religion, those displaying no religious coloring. The author feels that religious help was of value in the first two groups, but of doubtful value in the last. Bibliography.—D. Shakow (Worcester State Hospital).

1421. Imber, I. *Sui meccanismi isteriformi nella schizofrenia (contributo clinico)*. (On the hysteriform mechanisms in schizophrenia; a clinical contribution.) *G. Accad. med. Torino*, 1935, Nos. 10-12, 260-263.—The author describes a case in which the mechanism and the hysteriform reaction are revealed by erotic manifestations which do not affect in any way the other manifestations of the schizophrenic personality.—L. Canestrelli (Rome).

1422. Imber, I. *La sincerità schizofrenica. Impostazione del problema*. (Schizophrenic genuineness. A statement of the problem.) *Rass. Studi psichiat.*, 1936, 25, 85-87.—The author discusses the importance from the diagnostic, psychological, and judicial points of view of the problem of schizophrenic genuineness.—L. Canestrelli (Rome).

1423. Kelly, G. A. The psychological clinic's use of practical rather than ideal recommendations.

- Psychol. Bull.*, 1937, 34, 746.—Abstract.—R. H. Brown (Clark).
1424. **Kelman, S. R.** Some psychiatric aspects of birth control. *Amer. J. Psychiat.*, 1937, 94, 317-337.—The practice of contraception can be traced to prehistoric man. An efficient, simple, and unobjectionable method of contraception should be made available by physicians and psychiatrists to patients as a mental-hygiene measure. Case histories are cited from the author's experience showing how mental and marital maladjustments were alleviated by contraceptive security.—R. Goldman (Boston Psychopathic Hospital).
1425. **Kennedy, M.** Nursing education. *Amer. J. Psychiat.*, 1937, 94, 345-354.—R. Goldman (Boston Psychopathic Hospital).
1426. **Kielholz, A.** Zur Begutachtung eines Falles von Päderosie. (The judgment of a case of pedophilia.) *Int. Z. Psychoanal.*, 1937, 23, 415-428.—The person described in this article is a pedophile who, besides his abnormal urge for sexual contact with children, manifested such diverse symptoms as homosexuality, auto-erotism, masochism, and exhibitionism. For this reason the author believes that sexual infantilism, rather than perversion, best describes the behavior of the individual concerned. This conclusion is strengthened by a medical diagnosis of cryptorchidism. The legal, social and psychiatric implications of pedophilia are considered.—H. J. Wegrocki (Minnesota).
1427. **Kinder, E. F., & Hamlin, R.** Consistency in test performance pattern of mentally subnormal subjects. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 132-137.—The patterns of test performance studied were those where intelligence quotients on the Pintner-Paterson scale were 10 points higher or lower than Binet intelligence quotients. The consistency of their discrepancies was of chief concern. Experimental cases numbered 22 and control subjects numbered 10. All were residents of an institution for the feeble-minded. Test intervals varied from less than a year to over twelve years. Regarding frequency of occurrence of patterns, that based on superiority in the Pintner-Paterson over the Binet appeared three times as frequently as did the pattern showing a discrepancy in the opposite direction. Patterns showing extreme differences between tests were relatively consistent, but the individual scores of the subjects showing these patterns were more variable than those of the control subjects. Observation suggests that such extreme patterns probably will prove to be of considerable clinical importance.—M. W. Kuenzel (Children's Home, Cincinnati).
1428. **Kleine, F.** Das Schicksal der Chronisch-Manischen. (The fate of the chronic manic.) Königsberg: Raabe, 1936. Pp. 35.—R. R. Willoughby (Brown).
1429. **Kugelmass, I. N., Poull, L. E., & Rudnick, J.** Mental growth in epileptic children. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 59-66.—Medical and psychological studies were made of 220 epileptic children selected from groups of institutional children and children coming under private practice. In their psychological examinations a variety of mental tests and scales were used, but not all were given to each child. The final mental rating was a weighted average. Retest intervals varied from three months to three years. Histograms and tables are published and used in the analysis. Normal mental growth occurred in those whose seizures were diminished or arrested, regardless of whether the improvement was due to drug or dietary therapy. Mental deterioration was prevented by treatment, according to these authors.—M. W. Kuenzel (Children's Home, Cincinnati).
1430. **Kunz, K.** Über die sogenannte traumatische Neurose im Kindesalter. (The so-called traumatic neurosis in childhood.) Munich: Hohenhaus, 1937. Pp. 26.—R. R. Willoughby (Brown).
1431. **Künzle, H.** Über die Manie im Senium. (Mania in old age.) Königsberg: Raabe, 1936. Pp. 21.—R. R. Willoughby (Brown).
1432. **Küppers, J.** Zur Kasuistik der posttraumatischen Seelenstörungen. (The casuistics of post-traumatic mental disturbances.) Bonn: Kubens, 1931. Pp. 48.—R. R. Willoughby (Brown).
1433. **Küsters, W.** Zur Frage der Manifestation des manisch-depressiven Irreseins durch Lues. (The problem of the manifestation of manic-depressive psychosis through syphilis.) Bonn: Schönerhagen, 1933. Pp. 27.—R. R. Willoughby (Brown).
1434. **Layman, J. W.** A comparative study of the intellectual performance of mentally ill patients and normal subjects. *Psychol. Bull.*, 1937, 34, 717-718.—Abstract.—R. H. Brown (Clark).
1435. **Leismann, E.** 1. Das Vorkommen der verschiedenen Psychosen in einer Sippe mit besonderer Berücksichtigung des manisch-depressiven Irreseins und der Schizophrenie. 2. Die Vererbung der Geisteskrankheiten im Zusammenhang mit der Blutgruppe. (1. The appearance of the different psychoses in a stock, with special reference to manic-depressive psychosis and schizophrenia. 2. The inheritance of the psychoses in connection with the blood group.) Köhn: Borowsky, 1937. Pp. 55.—R. R. Willoughby (Brown).
1436. **Lewald, J.** Emotional differences in white and colored inmates in an institution for mental defectives. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 91-94.—In an institution for mental defectives caring for both colored and white boys and girls, colored girls offer the greatest problem in maintaining order, and colored boys seem more prone to disturbance than white boys. Since behavior pattern is tied up with the emotions, a study was made of the emotional responses of 48 subjects to five sets of sensory stimuli. The method of paired comparisons was used. The scores showed lack of correlation with mental age, but socially adjusted children scored higher as a rule than those with a low sense of social value. The author hopes that further study of emotional responses to ordinary stimuli



will lead to more accurate measurement of the social adjustability of individuals in order to attain suggestions regarding the course to pursue in character training.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1437. **McPherson, G. E.** Preliminary consideration of the heredity of mental deficiency. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 124-131.—50% of admissions to the state institution for feeble-minded at Belchertown, Massachusetts, can be classed as cases of familial defect. This author feels that the implications of defective transmission are not fully realized and would like to re-awaken an interest in such research. Sociological questions cannot be clarified until the causes of mental deficiency are known. Summaries of 13 defective families are presented to indicate the types of hereditary problems arising both within and without the institution.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1438. **McRae, D.** Some observations on the care of the insane. *J. ment. Sci.*, 1937, 83, 489-504.—The presidential address at the 96th annual meeting of the British Royal Medico-Psychological Association deals with the sociological and medical aspects of the care of the insane.—*C. J. Herrick* (Pennsylvania).

1439. **Meyer, H. H.** Die Haftpsychosen. (The prison psychoses.) Würzburg: Triltsch, 1935. Pp. 35.—*R. R. Willoughby* (Brown).

1440. **Mukerjee, A. K.** Occupational therapy and its application to a few important occupations in a mental hospital. *Indian J. Psychol.*, 1937, 12, 59-72.—The paper defines the values of occupational therapy in mental cases and presents some observations on the curative values of the several occupations at present in existence in the O. T. Department of the Ranchi European Mental Hospital.—*L. A. Averill* (Worcester Teachers College).

1441. **Neustatter, L. W.** Modern psychology in practice. Philadelphia: Blakiston, 1937. Pp. 299. \$3.75.—This book surveys the psychological aspects of common illnesses, and is based throughout on clinical observations obtained directly from medical practice; these are correlated with didactic and theoretical information. There are 24 chapters divided among 5 sections, entitled respectively "Psychopathology," "Children's Disorders," "Adult Disorders (Neurosis and Psychosis)," "Methods of Treatment," and a general section of three chapters covering the psychological aspects of general medicine, causation and prophylaxis, and legal questions. Illustrative clinical material is cited throughout, and appropriate emphasis is placed upon constitutional, experiential, and environmental factors entering into the various problems of abnormal and normal psychology encountered in general psychiatric practice. Index and bibliography are provided.—*M. H. Erickson* (Eloise Hospital).

1442. **Panara, C.** Velocità e ritmo delle reazioni motorie negli schizofrenici. (Velocity and rhythm in the motor reactions of schizophrenics.) *G.*

*Psichiat. Neuropat.*, 1935, No. 3-4, 295-349.—The reaction times (Barbado and D'Arsonval methods) of normal subjects oscillate around an average value, without excessive variation, while the oscillations for schizophrenics are much greater and more irregular, with abrupt alternations of very short and very long time periods. Likewise we find antithetical behavior between the healthy subjects and the schizophrenics shown in the ergographic tests, in that the former tend to maintain a given rhythm and the latter to vary abruptly and to manifest an individual rhythm. This should constitute a final proof of psychic dissociation, characteristic of schizophrenics.—*L. Canestrelli* (Rome).

1443. **Piotrowski, Z.** Rorschach studies of cases with lesions of the frontal lobes. *Brit. J. med. Psychol.*, 1937, 17, 105-118.—A case of Pick's disease is reported. Clinical observations agree with the disintegration revealed in successive Rorschach tests. A case of bilateral lobectomy is also described. The Rorschach results agree with Goldstein's clinical report of deficiency in abstract attitude and incapacity for maintaining a deliberate direction of thought.—*E. R. Hilgard* (Stanford).

1444. **Piotrowski, Z. A.** A comparison of congenitally defective children with schizophrenic children in regard to personality structure and intelligence type. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 78-90.—Rorschach's ink-blot test and the usual psychometric tests were used in this investigation. Ten schizophrenics and sixteen unstable high-grade mental defectives between the ages of six and sixteen were examined. Based on findings from Rorschach's method "the following differentiate the schizophrenic children from the unstable mental defective: (1) perseveration of one idea which seems to be closely connected with a personal experience of the child, (2) uneven performance level characterized by the presence of few good responses and autocritical remarks together with many vague and not infrequently absurd responses, (3) large percentage of poor original responses, (4) absence of inductive reasoning." On common psychometric tests the scores of schizophrenics are lower on performance tests than on tests of verbal intelligence. "The main diagnostic differences lie in the approach to the tasks and in the qualitative aspects of their thinking." The author recognizes the theoretical possibility of identifying cases of *Pfropfschizophrenie* by the use of Rorschach's method. Tables showing quantitative results are appended.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1445. **Pollack, B.** Schizophrenic thought, with case report. *Psychiat. Quart.*, 1937, 11, 337-355.—Discussion of a case of dementia praecox of the paranoid type which has been studied for about 15 years.—*C. R. Atwell* (Boston Psychopathic Hospital).

1446. **Poppi, U.** Sul cosiddetto negativismo sperimentale. (On experimental negativism, so-called.) *Schizofrenie*, 1936, 5, 221-232.—The negativism, first described by Baruk and later by Poppi, which

is exhibited in animals treated with bulbo-capnin and coli-bacillary neurotoxin, seems to belong to the same order of phenomena as does schizophrenic negativism. This experimental form is probably due to the physical malaise of the animal, and is shown by a feeling of strangeness and hostility to its environment; the mechanism of the reaction is described by the author. The principal doctrines of negativism are discussed, with special attention to that of Bleuler.—*L. Canestrelli* (Rome).

1447. Putnam, T. J. The progressive confusional syndrome following injuries to the cervical portion of the spinal cord. *Science*, 1937, 86, 542-543.—The author suggests that mental symptoms such as loss of memory, confusion, etc., in cases of fracture of the cervical vertebrae may be due to deficient aeration or to interruption of vasomotor pathways or of sensory tracts.—*F. A. Mote, Jr.* (Brown).

1448. Raithel, W. Über die Bedeutung der Erblage bei reaktiven Depressionen. (The importance of hereditary constitution in reactive depressions.) *Psychiat.-neurolog. Wschr.*, 1937, 39, Nos. 39, 40.—Although on the basis of his limited material Raithel could come to no decision as to a hereditary biological relationship between reactive and endogenous depressions, or a hereditary tendency to reactive depressions, nevertheless he gives an explanatory introduction to the subject.—*P. L. Krieger* (Leipzig).

1449. Reckless, W. C., & Selling, L. S. A sociological and psychiatric interview compared. *Amer. J. Orthopsychiat.*, 1937, 7, 532-539.—The authors compared their interviews with the same subject, a colored woman, 30 years of age, who was obtained for this experiment from a social agency. Significant differences were: the sociologist seems to have obtained a life history while the psychiatrist seems to have made a personality trait inventory. The sociologist calls attention to the typical aspects of the subject's experiences as a professional sex delinquent, the genesis of a career as a prostitute, the extent of demoralization, the disorganizing factor in her present mode of life; the psychiatrist makes notes of the guilt feelings, feelings of inferiority, compensations and Adlerian mechanisms, unstable nervous system, psychotic periods, degree of adjustment to reality. The question as to which interview by itself is the more adequate would be practically undeterminable, the authors conclude; each interview seems to be definitely supplementary in character to the other.—*E. D. Hunt* (Brown).

1450. Rehn, E. Der Schock und verwandte Zustände des autonomen Systems. (Shock and related conditions of the autonomic system.) Stuttgart: Enke, 1937. Pp. 42. RM. 2.60.—*R. R. Willoughby* (Brown).

1451. Rizzatti, E., & Martinengo, V. L'ereditarietà nella psicosi maniaco-depressiva. (Inheritability of the manic-depressive psychosis.) *Atti Lega ital. Igiene Prof. ment.*, 1936, 40-47.—The author does not believe that a direct homonymous

inheritance of the manic-depressive psychosis exists, but that the constitutional elements necessary for the formation of the psychosis are probably transmitted from generation to generation and possess, to a large extent, dominant Mendelian characteristics. We find this demonstrated by the discrete frequency of the psychosis in parent and child.—*L. Canestrelli* (Rome).

1452. Roberti, C. E. Il concetto nosografico e clinico di frenosi maniaco-depressiva in rapporto col problema dell'ereditarietà. (The nosographic and clinical conception of the manic-depressive psychosis as related to the problem of heredity.) *Atti Lega ital. Igiene Prof. ment.*, 1936, 23-26.—The author discusses the inadequacy of the clinic in problems of heredity. The one criterion used, which is statistical, is generic and cannot clear up the factors which determine dysthymia. The problem of dysthymia is embedded in the ontological whole of personality, which is the sum of innumerable factors about which much is already known. The task of empirical clinical observation is to cull out the various lines from the whole and to bring meaning to the correlational relationships.—*L. Canestrelli* (Rome).

1453. Roberti, C. E., & Fiore, G. Il problema dell'eredità nella frenosi maniaco-depressiva. (The problem of heredity in the manic-depressive psychosis.) *Pisani*, 1936, 61, 153-161.—*L. Canestrelli* (Rome).

1454. Rüssel, A. Zur Psychologie der optischen Agnosien. (On the psychology of visual agnosia.) *Neue psychol. Stud.*, 1937, 13, No. 1. Pp. 91.—This doctoral dissertation discusses, on the basis of published cases, the psychology of three forms of visual agnosia, namely, *Objektagnosie* (inability to recognize familiar objects or their pictures); *Simultanagnosie* (inability to recognize pictures of situations or of groups of objects); and *alektischen Störungen* (disorders related to alexia). The point of view is derived from the *Ganzheitspsychologie* of F. Krueger, and represents the consciousness of the agnosic individual generally as a more or less "primitive," poorly articulated and diffuse, yet organized totality, maintained by tendencies that, once aroused, are strongly determining.—*C. K. Trueblood* (Harvard).

1455. Schweiger, A. Beginn der Schizophrenie und Lebensalter. (The onset of schizophrenia and age.) Munich: Stiehl & Jehle, 1937. Pp. 25.—*R. R. Willoughby* (Brown).

1456. Slater, E. The inheritance of manic-depressive insanity. *Proc. R. Soc. Med.*, 1936, 29, 981-990.—*R. R. Willoughby* (Brown).

1457. Stefan, H. Zur Frage der exogenen Verursachung von Psychosen. (The problem of the exogenous causation of psychoses.) *Psychiat.-neurolog. Wschr.*, 1936, 38, Nos. 10-12. Pp. 19.—*R. R. Willoughby* (Brown).

1458. Stern, E. Experimentell-psychologische Schwachsinn Diagnostik. (Experimental-psychological

gical methods of diagnosing feeble-mindedness.) *Handb. biol. Arb. Meth.*, 1935, Abt. vi, Teil C, 1265-1439.—The author states that although in mental deficiency we deal with disturbances of the total personality, it is intellectual retardation which is the conspicuous difficulty. Throughout his discussion he tries to determine the importance of intellectual deficiency not only in terms of scholastic and social achievement but also in relation to the total personality of the defective. He reviews practically the entire field of mental tests, European and American, including individual and group tests of both general intelligence and psychomotor co-ordination as well as personality and character tests. A novel contribution to the field is a discussion of tests designed to measure adaptability to school training (the so-called *Schulteste*). The capacity to benefit from school education is in many young children independent of intelligence level. The author also describes a number of tests not generally known in this country, which have not been standardized but the careful development of which might be of value. The article concerns itself merely with a rather detailed description of psychological tests; it does not give results obtained with them.—Z. Piotrowski (Columbia).

1459. Striegl, A. **Das Wanderleben eines schizophrenen Weltreisenden.** (The nomadic life of a schizophrenic world traveler.) Erlangen: K. Döres, 1937. Pp. 28.—R. R. Willoughby (Brown).

1460. Syz, H. **Recovery from loss of mnemonic retention after head trauma.** *J. gen. Psychol.*, 1937, 17, 355-387.—In addition to a right-sided hemiparesis, the patient had lost all memory for events after the accident, but not for earlier events. After three years he was still largely unable to utilize recent past experiences. Under hypnosis he showed some retentive ability, as in carrying out post-hypnotic suggestions. During repeated hypnosis he was gradually given a number of facts, as well as training in motor control. Through the use of various methods it was possible to piece together the story of the patient's emotional (largely sexual) maladjustment. He improved rapidly after one crucial emotional experience was recalled, but it was impossible to say whether the improvement was due to the work done with the emotional factors or to the gradual accumulation of specific facts. He was able to leave the hospital after 4½ months of treatment, and was leading a normal life 2 years later. He still had no memory for the period of sickness. After extensive discussion, Syz argues for an organismic point of view. The mnemonic function "can be adequately understood only if considered in its close interrelation with equilibration and adaptation of the total organism, its drives, emotional tendencies and 'conflicts.'" 91 references.—H. Schlosberg (Brown).

1461. Tripi, G. **I riflessi condizionati in neuropsichiatria. Rassegna critica.** (Conditioned reflexes in neuropsychiatry. Critical review.) *Pisani*, 1936, 56, 163-179.—L. Canestrelli (Rome).

1462. Wachholder, K. **Inwieweit sind die Vitamine und zumal das Vitamin C für den Neurologen und Psychiater von Interesse?** (To what extent are the vitamins and especially Vitamin C of interest to the neurologist and psychiatrist?) *Fortschr. Neurol. Psychiat.*, 1937, 9, 491-504.—The author undertakes to clarify the role of vitamins in medical and therapeutic work. The frequency of articles on the subject of vitamins gives a misleading impression that the field has been used as a catch-all and that all unusual occurrences may be attributed to vitamins. There is a discussion of studies on vitamins and their relationship to various hormones and chemical changes both in normal and abnormal states. The conclusion is that the vitamins regulate general bodily activity, creating a point of attack for hormones, and that latent disturbances in vitamins can manifest themselves as functional disturbances typically hormonal in character. Thus vitamins have great significance for vegetative nervous system disturbances. Bibliography.—D. S. Oberlin (Delaware State Hospital).

1463. Warner, W. L. **The society, the individual, and his mental disorders.** *Amer. J. Psychiat.*, 1937, 94, 275-284.—The thesis stated is that there is "a relation between many of our mental ailments and the social situations which exist in our kind of social system." An examination is made of the general functions of a society and the individual's place in the social system. It is argued that the more critical social positions in our own society to which adjustment is difficult contribute to maladjustment.—R. Goldman (Boston Psychopathic Hospital).

1464. Whitten, B. O. **Address of the president.** *Proc. Amer. Ass. ment. Def.*, 1937, 42, 33-43.—The work of the State Training School for feeble-minded in South Carolina is correlated with a sociological study of the people in that state and with existing economic and geographic conditions there. This institution, founded in 1920, already has served over one thousand white families. Provision for care and training of colored subnormals remains to be made. Few cities have established classes for subnormals.—M. W. Kuenzel (Children's Home, Cincinnati).

1465. Willhite, F. V. **Program for the social control of the mentally deficient.** *Proc. Amer. Ass. ment. Def.*, 1937, 42, 95-99.—South Dakota's program for the social control of feeble-mindedness is explained. This integrated and workable program is an original achievement in so far as other states are concerned. Its primary purposes are those of identification and of bringing mental defectives under a definite authority. A state survey begun in 1925 revealed that over 90% of the feeble-minded were in possession of the rights of normal citizens. Then a control law was passed which provides "for the identification, registration, adjudication, prevention of marriage, and supervision in the community, of all the feeble-minded in the state." The law operates through a central state committee, with subcommittees in every county. During the first five years



the law has been operating over 25% of the known mental defectives have been brought under control. Its objectives are favored by the public.—*M. W. Kuenzel* (Children's Home, Cincinnati).

1466. Winter, J. *Über die Nachkommenschaft Schizophrener*. (The offspring of schizophrenics.) Düsseldorf: Nolte, 1937. Pp. 15.—*R. R. Willoughby* (Brown).

1467. Wörner, D. *Die retrograde Amnesie und ihre forensische Bedeutung*. (Retrograde amnesia and its legal significance.) Buchen i. Odw.: Wittmann, 1936. Pp. 29.—*R. R. Willoughby* (Brown).

1468. Yaskin, J. C. *The role of the neuroses and psychoneuroses in thoracic symptomatology*. *Med. Times, N. Y.*, 1937, 65, No. 9.—*R. R. Willoughby* (Brown).

[See also abstracts 1020, 1140, 1211, 1238, 1303, 1352, 1356, 1360, 1361, 1365, 1374, 1472, 1483, 1493, 1497, 1511, 1532, 1575, 1579, 1595, 1597, 1615, 1652, 1666, 1680, 1707.]

#### PERSONALITY AND CHARACTER

1469. [Anon.] *A review of Rorschach scoring samples*. *Rorschach Res. Exch.*, 1936-1937, 1, 94-102.—A review of Rorschach scoring samples from a number of investigators points to the conclusion that the only way to arrive at a genuinely objective scoring method is to refine the method to the extent where all patterns of Rorschach responses important for interpretation are covered by adequate symbols.—*M. Keller* (Brown).

1470. Barry, H., Jr., & Sender, S. *The significance of the Rorschach method for consulting psychology*. *Rorschach Res. Exch.*, 1936-37, 1, 157-167.—Authors' abstracts of the contributions to the round-table conference at the eighth annual meeting of the Association of Consulting Psychologists, May, 1937. A complementary summary by Sender is included.—*M. Keller* (Brown).

1471. Bober, H., & Jaensch, W. *Wesen und Bedeutung der Konstitution*. (The nature and meaning of the constitution.) *Industr. Psychotech.*, 1937, 14, 174-178.—The study of the physical constitution is usually begun by using Kretschmer's types, asthenic and pyknic. These, however, are not the only distinctions. The Gestalt principle must be used; the union of body and mind, the totality of the individual, must be considered. It is these two parts, jointly considered, that the authors wish to have investigated. Various types found in Germany are mentioned. A bibliography of 17 titles is appended.—*J. C. G. Seidl* (Manhattan College).

1472. Braat, J. P. *Die experimentelle Psychologie und Kretschmers Konstitutionstypen*. (Experimental psychology and Kretschmer's constitutional types.) *Msehr. Psychiat. Neurol.*, 1936, 94, 273.—The author attempts to derive experimentally the clinical pictures of schizophrenia and manic-depressive psychosis from the constitutional types of healthy individuals and their mental attitudes. The investigation included the perception of color and

form, the range of consciousness, and the psychomotor tempo. Though differences in reaction forms were found, these were influenced by the subject's constitution rather than by any psychosis.—*P. L. Krieger* (Leipzig).

1473. Braunshausen, N. *L'étude expérimentale du caractère. Méthodes et résultats*. (The experimental study of character. Methods and results.) Uccle-Brussels: Centre Nat. Educ., 1937. Pp. 198.—The first chapter deals with experimental studies on will, as the author considers that character can be defined as "the ensemble of constant volitional tendencies in the subject" and that motivation of action depends upon the physical and psychological constitution of the individual. Chapter II summarizes the typologies of Kretschmer, the Jaensch brothers, Ewald, Ottmar Rutz, Jung, Rorschach, Viola, Pende, Ribot, G. Pfahler, Klages, and Heymans, and takes up the studies which are used to support these typologies. Chapter III deals with the methods and results of research on isolated qualities: moral judgment, moral feelings, and the different aspects of moral conduct, such as lying, deceit, service, and perseverance. Chapter IV summarizes the attempts which have been made to arrive at the nature of character through somatic phenomena (composition of the blood, mimicry, physiognomy, the structure of the skull, and motor phenomena, such as handwriting). Chapter V deals with psychological profiles (Rossolimo, Vermeylen, and Lasurski) and questionnaires which have been used largely for vocational guidance. The author concludes that none of these methods alone can solve the question of character, but that the use of data from a typological or simple systematic questionnaire in connection with tests bearing on various special aspects of personality can give a diagnosis of the essential character disposition of the individual which has a high probability rating.—*R. Nihard* (Liège).

1474. Burks, B. S. *Genetic linkage determination as a method for establishing the basic components of human traits*. *Psychol. Bull.*, 1937, 34, 758-759.—Abstract.—*R. H. Brown* (Clark).

1475. Comellini, A. *Il tatuaggio (studio psicologico)*. (Tattooing; a psychological study.) *Ann. Osp. psichiat. Perugia*, 1935, Nos. 1 & 2, 39-52.—The following subjects are discussed: the origin, development, determining causes, and expression of tattooing among civilized and savage peoples; the opinions on this phenomenon expressed by several writers (Darwin, Lombroso, Lacassagne, Berté, etc.); and considerations of a psychological nature necessary for the interpretation of the mind of the subject and his environment. The morphological method alone does not suffice for a study of tattooed individuals, but a knowledge of the intimate psychology of the subject is necessary, a knowledge which must be obtained by the psychiatrist. The author discusses the position of tattooed individuals in respect to the new penal code.—*L. Canestrelli* (Rome).

1476. Cowell, C. C. **Play behavior and personality analysis.** *Educ. Res. Bull., Ohio St. Univ.*, 1937, 16, 182-186.—The specific attitudes and modes of behavior employed in the personality analysis chart reproduced in this article, which is intended to aid the student-teacher in considering and educating the whole child, were selected specifically for big-muscle social-play situations common to the physical-education program, and include physical, intellectual, emotional, dynamic and social components.—(Courtesy *J. educ. Res.*)

1477. Cullinan, M. C. **The relationship of birth order to certain aspects of personality adjustment.** *Psychol. Bull.*, 1937, 34, 785.—Abstract.—R. H. Brown (Clark).

1478. Eisenberg, P. **Factors related to feeling of dominance.** *J. consult. Psychol.*, 1937, 6, 89-92.—The dominance feeling of a group of college men and women was determined by means of a personality inventory and then correlated with certain physical and sociological data. No significant relationship was demonstrated between dominance and eye color, hair color, age, class in college, or height-weight ratio. Oldest and only children tend to be more dominant than middle and youngest children, although in the case of girls these tendencies are not well marked. Children whose fathers are professional and business men are more dominant than those whose fathers are skilled, semi-skilled and unskilled workers. Jewish men and women students are more dominant than Protestant and Catholic students, but there is no difference between Protestant and Catholic groups. Graduates of private elementary schools are more dominant than those of public schools.—*P.S. de Q. Cabot* (Simmons).

1479. Gavarino, G. **Ricerche di psicologia nei fanciulli enuretici.** (Studies on the psychology of enuretic children.) *Pediat. Med.-prat.*, 1936, 11, 42-52.—Intelligence, attention, and imagination were found to be normal, though the emotional character was often unstable. There was only a small percentage of psychopathies (hysteria, paranoia, and introversion). Nearly 50% were masturbators.—*L. Canestrelli* (Rome).

1480. Herland, L. **Gesicht und Charakter. Handbuch der praktische Charakterdeutung.** (Face and character. Handbook of practical character interpretation.) Vienna: Saturn-Verl., 1937. Pp. 47. M. 5.—; 7.—.—R. R. Willoughby (Brown).

1481. Hertz, M. R. **The normal details in the Rorschach ink-blot test.** *Rorschach Res. Exch.*, 1936-37, 1, 104-121.—Normal details for the Rorschach test were statistically determined in this investigation on the basis of a frequency distribution of all the details selected for interpretation and the number of times such selections were made. The responses of 300 adolescent subjects formed the basis for the statistical determination. The normal details so determined coincided with many of the first grade normal details described by Klopfer and Rickers. There was considerable disagreement, however, between the statistically determined nor-

mal details and the first grade normal details which were qualitatively described. Lack of coincidence was especially observed with cards IV, VI, III, and V. This article includes discussions by Sender and Klopfer.—*M. Keller* (Brown).

1482. Hollingworth, L. S., & Rust, M. M. **Application of the Bernreuter inventory of personality to highly intelligent adolescents.** *J. Psychol.*, 1937, 4, 287-293.—A group of 36 boys and 19 girls (S-B IQ 135 to 190, median 153) were given the Bernreuter inventory. This group exhibited less neurotic tendency, more self-sufficiency, and less submissiveness than did control groups of college students and normal adults. The divergence is present for both boys and girls, but is much more pronounced for the boys. The senior author, who had known all subjects since childhood, considered that the scores corresponded closely with the situation in their actual lives. It is concluded that adolescents who as children test 135-190 IQ (S-B) are much less neurotic, much more self-sufficient, and much less submissive than college students in general. All but four subjects were Jews, and inasmuch as these four followed the same tendencies as the others it is considered that intelligence rather than temperament associated with ethnic stock is the basis for the divergence found on the Bernreuter.—*J. McV. Hunt* (Brown).

1483. Kardiner, A. **Psychological factors in old age.** In *Various, Mental hygiene in old age*. New York: Family Welfare Association, 1937. Pp. 14-26. \$40.—A large proportion of the aged have no particular problem of adaptation. Those who do have a neurosis which is characterized by a strong, unconscious conviction of inadequacy, resulting from the actual curtailment of executive capacities. To this they react by (1) denial; (2) compensatory activities; and (3) anxieties. These neurotic reactions operate to prolong life, in that they guard the individual against the full impact of actual inadequacy. "For an ideal society we would demand for the aged that their activities should never abruptly be stopped, but changed in accordance with their altered capacities; for, as long as the individual is alive, in addition to food and love he needs the opportunity to be both functioning and effective."—*M. Keller* (Brown).

1484. Klopfer, B. **The present status of the theoretical development of the Rorschach method.** *Rorschach Res. Exch.*, 1936-37, 1, 142-148.—This review attempts to give a picture of the present state of the discussion of the most fundamental points in the scoring and interpretation of the Rorschach test.—*M. Keller* (Brown).

1485. Layman, E. McC. **An item analysis of the adjustment questionnaire.** *Psychol. Bull.*, 1937, 34, 782.—Abstract.—R. H. Brown (Clark).

1486. Liebig, M. **Beiträge zur Frage des Zusammenhangs zwischen Persönlichkeitstypus und Weltanschauung.** (Contributions to the problem of the relationship between personality type and philo-

sophical standpoint.) Düsseldorf: Nolte, 1937. Pp. 83.—R. R. Willoughby (Brown).

1487. Maller, J. B. **Character and personality tests (revised)**. New York: Teachers College, Columbia, 1937. Pp. 137.—This includes a classification of character and personality tests and a descriptive bibliography, including measures of attitude, interest, adjustment, appreciation, moral knowledge, behavior, and rating scales.—M. Keller (Brown).

1488. Märker, F. **Grenzen der Physiognomik** (The limits of physiognomy.) *Industr. Psychotech.*, 1937, 14, 179-182.—In each individual's character are certain definite attributes and perhaps all the possibilities of human character. It is difficult to determine which are really present, which are dormant and which are truly not present. Even introspection often fails. The physiognomy may differentiate if the attributes are sharp and clear, but such traits as envy and avarice are not discernable. One cannot determine honesty, submissiveness, dominance, or any of this class of characteristics, or separate character from behavior. It is concluded that the physiognomist can not differentiate between true and false attributes of character.—J. C. G. Seidl (Manhattan College).

1489. Morgan, C. M. **The attitudes and adjustments of recipients of old age assistance in upstate and metropolitan New York**. *Arch. Psychol.*, N. Y., 1937, No. 214. Pp. 131.—381 cases were studied. Good adjustment and happiness in old age were associated with (1) good health and freedom from physical disabilities, especially among men, (2) pleasant social and emotional relations with friends and relatives, especially among women, (3) possession of hobbies and outside interests, (4) quiet, privacy and independence of action, (5) some form of work. The study reveals the following needs: personal independence, exercise of a modicum of power and authority in the world, and suitable activities to fill empty hours.—E. M. Achilles (Columbia).

1490. Murphy, G. **Personality and social adjustments**. *Soc. Forces*, 1937, 15, 472-476.—There is evidence to suggest that personality is not a stable entity and that not personality traits, but a wide range of *potentialities*, are inherent in the organism. The author cites experimental evidence in favor of the hypothesis that personality is not simply organism, but organism in a situation. He points out that, since he is dealing not with the amount or rate of change, but only with the fact that there is a change in traits, such considerations as the controversy about the role of cultural versus biological forces in causing variation in personality, or the distinction between superficial and deep traits of personality, have no bearing on his thesis.—F. G. Allen (Brown).

1491. Pallister, H., & Pierce, W. O'D. **The Bell adjustment inventory applied to Scottish subjects**. *Psychol. Bull.*, 1937, 34, 782-783.—Abstract.—R. H. Brown (Clark).

1492. Piotrowski, Z. **The M, FM, and m responses as indicators of changes in personality**. *Rorschach Res. Exch.*, 1936-37, 1, 148-157.—The author believes that if the nature of the attitudes expressed in the three categories of M, FM, and m is the same, then the individual has not changed his essential attitude since early childhood. Fundamentally he is the same person that he always has been. If, on the other hand, the attitudes expressed in these three categories are different, it is felt that the individual has changed in essential aspects of his attitude toward the world. Illustrative examples are given.—M. Keller (Brown).

1493. Rice, M. B. **Diagnosis of the mental hygiene problems of college women by means of personality ratings**. Washington: Catholic Univ. America, 1937. Pp. ix + 71. Pap., apply.—A doctoral thesis. Following up T. V. Moore's study of the syndromes of the essential psychoses, the author constructed a 5-point rating scale for each of 65 trait items. An experiment with this scale was conducted at a Catholic women's college with 385 students of the sophomore, junior, and senior classes. She found, with an average of 4 ratings of each student on the traits in question, and an application of the tetrachoric function, 9 groups of traits approximating hierarchies. She concludes that the defects of personality or temperament in college women tend to combine in groups comparable to the psychotic syndromes of Moore's psychotic patients, and that the scale she used is capable of diagnosing such personality defects. She suggests that such a scale may be used as the first step, and a proper treatment should follow for the mental hygiene of the college woman.—K. S. Yum (Chicago).

1494. Rulon, P. J., Nash, E. A., Woodward, G. I., & others. **B E C personality rating schedule**. Cambridge: Harvard Univ. Press, 1936.—This schedule is one of the instruments used by the Business Education Council in the certification of certain students who have pursued studies in preparation for office work. Ratings on a number of aspects of the student's personality may be summarized under the following headings: (1) mental alertness, (2) initiative, (3) dependability, (4) cooperativeness, (5) judgment, (6) personal impression, (7) courtesy, (8) health.—M. Keller (Brown).

1495. Rundquist, E. A. **Form of statement in personality measurement at the eighth grade level**. *Psychol. Bull.*, 1937, 34, 783-784.—Abstract.—R. H. Brown (Clark).

1496. St. Clair, W. F., & Seegers, J. C. **Certain aspects of the validity of the Bernreuter personality inventory**. *J. educ. Psychol.*, 1937, 28, 530-540.—The Bernreuter test and questionnaires relating to health, home conditions, personal problems, interests and activities, and social attitudes were administered to 729 men and 433 women freshmen at Temple University. The relationship between Bernreuter scores and neurotic tendency, introversion, dominance, and self-sufficiency, as determined from the questionnaires, was studied. There is no indication



that the Bernreuter test differentiates between neuroticism and introversion, but it does indicate membership in one of these classes. Further, the evidence indicates that the B2 and B4 scales measure different traits; namely, self-sufficiency or withdrawal, and dominance. It is concluded that "the Bernreuter scale appears to have a degree of validity as a measure of personality traits."—*A. W. Melton* (Missouri).

1497. **Sears, R. R.** Experimental studies of projection: II. Ideas of reference. *J. soc. Psychol.*, 1937, 8, 389-400.—Two objective scales were constructed, one to measure the degree to which a subject possessed ideas of reference (the false idea that others are noticing or speaking of him), and the other to measure his self-criticism. Ideas of reference as measured by this inventory technique do not represent accurately the social relationships between the subject and his associates; the clinical observation of a close association between ideas of reference and feelings of self-criticism is verified. Three possible explanations of this relationship (projection, closure in perception of social relations, and McDougall's sensitization theory) fail, on examination, to account for it.—*E. D. Hunt* (Brown).

1498. **Stott, L. H.** An analysis of "self-reliance." *Psychol. Bull.*, 1937, 34, 783.—Abstract.—*R. H. Brown* (Clark).

1499. **Troup, E., & Klopfer, B.** Sample case studies. *Rorschach Res. Exch.*, 1936-37, 1, 121-140.—Case studies of two pairs of twins are presented together with interpretations of their Rorschach responses. These interpretations were made by Klopfer solely on the basis of the records, without any knowledge of the cases other than the age and sex.—*M. Keller* (Brown).

1500. **Wallenstein, N.** Character and personality of children from broken homes. *Teach. Coll. Contrib. Educ.*, 1937, No. 721. Pp. vi + 86.—A battery of 114 personality and character tests was used to determine differences between children from normal and from broken homes. Of the 3000 children examined, 550 (17%) were from broken homes. About 1600 normal and 400 broken-home children from grades 5B to 8B were used in the study. Most of the broken homes were the result of the death of the father. Two sets of comparisons were made, a gross and a matched. Children from broken homes were retarded in school grade, and of lower IQ and socio-economic status; "... being subjected to a broken-home situation is associated with inferiority in certain aspects of character and personality. . ." The overlap of the distributions is large. The bibliography lists 45 items.—*J. M. Stalnaker* (Princeton).

1501. **Westbrook, C. H., & Hsien-Hwei, Y.** Emotional stability of Chinese adolescents as measured by the Woodworth-Cady-Mathews questionnaire. *J. soc. Psychol.*, 1937, 8, 401-410.—When the results in this study (group administration of the Chinese translation of the questionnaire to over 1000 students) are compared with those secured by Brooks from American students, it is found that

the most unfavorable age for responses is 18 with Chinese subjects, whereas it is 7 for Brooks' American subjects. At every age the unfavorable responses of Chinese adolescents exceed those of foreign children at the corresponding age. In Terman's study (with gifted children) no significant sex difference is noted, whereas the authors found that Chinese girls at all ages have higher scores than Chinese boys. 8 items elicited over 50% unfavorable responses from both sexes. Further experimentation with the translations of the questions is necessary to determine whether the results obtained show a real or approximate measure of emotional instability for these Chinese students.—*E. D. Hunt* (Brown).

1502. **Young, P. T.** Liking and disliking persons. *Psychol. Bull.*, 1937, 34, 784-785.—Abstract.—*R. H. Brown* (Clark).

1503. **Zeman, F. D.** Physical illnesses and mental attitudes of old people. In Various, *Mental hygiene in old age*. New York: Family Welfare Association, 1937. Pp. 39-44. \$.40.—Among the physical disabilities occurring most frequently in old age are arteriosclerosis, heart disease, injuries, and malignant neoplasms. The principal emotion associated with old age is fear—fear of suffering, fear of death, and the realization of increasing uselessness. Although the diseases of old age are often chronic in nature, people can be taught to live happily within their limitations.—*M. Keller* (Brown).

[See also abstracts 1145, 1177, 1300, 1399, 1414, 1443, 1522, 1532, 1543, 1545, 1546, 1560, 1561, 1572, 1605, 1647, 1652, 1689, 1696, 1708.]

## GENERAL SOCIAL PROCESSES

(incl. Esthetics)

1504. **Abel, T. M.** The influence of social stimulation on motor performance at different intelligence levels. *Psychol. Bull.*, 1937, 34, 739-740.—Abstract.—*R. H. Brown* (Clark).

1505. **Allport, F. H.** Introduction: the Hanover round table—social psychology of 1936. *Soc. Forces*, 1937, 15, 455-462.—This is an introduction to and brief review of the papers presented at a round table on social psychology at the annual meeting of the American Psychological Association at Hanover, New Hampshire, September, 1936. The author defines social psychology as the science which deals with the behavior of individuals stimulating or acting in response to other individuals, or in social situations. He discusses the particularistic approach and the conceptually systematic approach as the two dominant contrasting points of view in the social psychology of 1936.—*F. G. Allen* (Brown).

1506. **Allport, F. H.** The observation of societal behaviors of individuals. *Soc. Forces*, 1937, 15, 484-487.—The strictly experimental approach in social psychology has been extended from the study of individuals reacting to other physically present individuals or doing common tasks to the study of the societal situation, where the specific social

stimulus may not be present at all. Institutional or societal behaviors may be analyzed into the following aspects: co-acting, reciprocal, and co-reciprocal. New quantitative methods must be devised to study the distributional aspects of these behaviors. In the discovery that the distributions are characteristically not normal, but J-shaped, the author sees the heart of the problem.—F. G. Allen (Brown).

1507. Baker, W. J., & McGregor, D. *Conversation as a reflector of social change.* *J. soc. Psychol.*, 1937, 8, 487-490.—The present study, conducted in New York and Boston in 1936, used a technique similar to the studies of conversational topics conducted in 1922 by Moore and in 1924 by Landis and Burt, as a means of studying social change. The distribution of conversations in the 1936 study indicates that the "man on the street" is definitely more interested in talking about politics and economics than he was 12 to 14 years ago.—E. D. Hunt (Brown).

1508. Barry, H., Jr. *Alterations in judgment induced by a knowledge of group opinion.* *Psychol. Bull.*, 1937, 34, 750.—Abstract.—R. H. Brown (Clark).

1509. Barwell, J. S. *The nature of ugliness.* *Brit. J. med. Psychol.*, 1937, 17, 119-127.—"When we are experiencing the esthetically satisfying we feel in union with the universe, free from all stress and conflict. The experience of ugliness gives the opposite feeling, insecurity—a feeling close to that of fear, horror, and anxiety." Evidence is drawn from the experiments of others with children and animals, from experimental esthetics, and from the opinions of experts. There are 19 references.—E. R. Hilgard (Stanford).

1510. Beebe-Center, J. G., & Pratt, C. C. *A test of Birkhoff's aesthetic measure.* *J. gen. Psychol.*, 1927, 17, 339-353.—Birkhoff's formula states that the aesthetic measure ( $M$ ) of an object is equal to its orderliness ( $O$ ) divided by its complexity ( $C$ ).  $M$  was calculated for groups of polygons, vases, poetry, harmony, and melody, and then compared with the ranking of these objects by trained and untrained observers. The correlations vary for the different classes of art objects, but indicate in general that Birkhoff's formula is a good first approximation to quantification. The results are complicated by meanings, associations, and differences between artists and laymen. Factor analysis is suggested as one means for further refinement.—H. Schlosberg (Brown).

1511. Bradway, K. P. *Social competence of exceptional children. III. The deaf, the blind, and the crippled.* *J. except. Child.*, 1937, 4, 64-69.—The paper presents the results of administering the Vineland social maturity scale to 92 deaf children, 73 blind children, 7 crippled children of normal intelligence, and 37 feeble-minded cripples.—L. A. Averill (Worcester Teachers College).

1512. Britt, S. H. *Past and present trends in the methods and subject matter of social psychology.*

*Soc. Forces*, 1937, 15, 462-469.—Social psychologists have spent too much time in discussing definitions and points of view; the important thing is to make empirical investigations. Examples are given of whole systems built around a particular concept, arrived at through arm-chair philosophizing. Present-day social psychology employs the experimental, observational, and statistical methods, through such techniques as tests, questionnaires, psychophysical, genetic, personality and physiological studies, group, field and psychoanalytic studies, and studies of institutions. Examples of each are given.—F. G. Allen (Brown).

1513. Brown, J. F. *The field-theoretical approach in social psychology.* *Soc. Forces*, 1937, 15, 482-484.—Lack of systematization in contemporary social psychology is due to lack of theory, since science does not grow by fact alone. The field theory claims its superiority on methodological grounds and attempts to make a systematized science of psychology. It insists on a theoretical basis, but returns with an advance in the theory to the test of experience.—F. G. Allen (Brown).

1514. Bruce, R. H. *An experimental analysis of social factors affecting performance of white rats motivated by the thirst drive in a field situation.* *Psychol. Bull.*, 1937, 34, 738.—Abstract.—R. H. Brown (Clark).

1515. Bryngelson, B. *Methods in studying the relationship between sidedness and dysphemia.* *Psychol. Bull.*, 1937, 34, 776-777.—Abstract.—R. H. Brown (Clark).

1516. Canning, G. A. *The problem of race betterment.* *J. Hered.*, 1937, 28, 428-430.—R. R. Wiloughby (Brown).

1517. Cantril, H. *A comparative study of radio and face-to-face stimulus situations.* *J. soc. Psychol.*, 1937, 8, 443-458.—By means of a questionnaire the reactions of people who participated as audience members in the Town Hall broadcast were compared with the reactions of radio listeners. From the data obtained the author reached three conclusions regarding the characteristics of radio as a stimulus situation: (1) a radio broadcast must be regarded as a social stimulus, since it arouses in the listener definite social behavior; (2) as a social stimulus the radio situation is less complete than the face-to-face situation; and (3) the comparative incompleteness of the radio situation decreases the intensity of interest in the content of the broadcast.—E. D. Hunt (Brown).

1518. Cantril, H. *The effect of modern technology and organization upon social behavior.* *Soc. Forces*, 1937, 15, 493-495.—The author gives the new communicative devices as examples of modern technology and shows how they tend to standardize life and make for greater social control and acceleration of social change. He amends F. H. Allport's definition of social psychology to take into account the fact of the influence of social situations as such on the individual, and also of "social norms." Social psychology must study the actual characteristics of the situations in which technology is found, and will

find a description of many social phenomena in terms of social norms more realistic than a description in terms of individual behaviors.—*F. G. Allen* (Brown).

1519. **Cattell, R. B.** Some further relations between intelligence, fertility and socio-economic factors. *Eugen. Rev.*, 1937, 29, 171-179.—Fertility is inversely related to children's intelligence for all occupational groupings except those with highest education, earnings, and intelligence. Restriction of fertility is associated with intelligence for the entire population studied ( $r = .84$ ); and with earnings as ranked by expert judges ( $r = .78$ ). For every occupational group the children's average IQ regresses toward the population mean, but the rank order of parents' and children's average occupational intelligence remains the same. Most occupations which are dysgenic in town follow a similar trend in the country, although the reverse holds for the unemployed, unskilled factory workers, and the professional groups. Higher IQ's are found for rural children among professional, clerical, and business groups than for children in similar urban occupational classifications. When earnings are adequate, IQ level and low fertility are maintained in the country, except for some middle-class groups which have a higher intelligence and a lower fertility in the country than in town. Class consciousness in the country seems to magnify tendencies to restrict family size for middle-class groupings less than it does in town.—*G. C. Schwesinger* (American Museum of Natural History).

1520. **Charles, E.** The effect of present trends in fertility and mortality upon the future population of Scotland and upon its age composition. *Proc. roy. Soc. Edinb.*, 1935-36, 56, 6-12.—*M. Collins* (Edinburgh).

1521. **Cook, R. C.** Eugenics at Greenbelt. *J. Hered.*, 1937, 28, 339-344.—This is a survey of the eugenic aspects and implications of the model Federal housing project at Greenbelt, seven miles from Washington, D. C. Applicants are considered who come from the lower economic brackets (one- or two-person families with incomes of less than \$1000; five- or six-person families up to \$2200 are also eligible). Personal interviews by investigators are used to estimate applicants' personality, intelligence, cooperativeness, and financial responsibility. Of the eligible applicants, 1781 families are on government and 635 on private payrolls. There were 43 one-person families, 828 families with one child, and 123 families with four children. This is in effect a government premium on small families among the best individuals in the lowest income groups. The improved environment implies a reduction in fertility, since the project makes slight provision for families of over four. The American Eugenics Society has established as the replacement needs for any population group an average of three children per couple, with at least 20% having five or more children. The policy at Greenbelt represents a dangerous dysgenic tendency. Added housing units should provide for better-than-average families in

the low-income groups who have three or more children, and eugenic factors should be a criterion of selection.—*G. C. Schwesinger* (American Museum of Natural History).

1522. **Cook, S. W., & Raskin, E.** A further investigation of the measurement of an attitude toward fascism. *Psychol. Bull.*, 1937, 34, 706.—Abstract.—*R. H. Brown* (Clark).

1523. **Dashiell, J. F.** The need and opportunity for experiment in social psychology. *Soc. Forces*, 1937, 15, 490-492.—The author discusses such fields for experimentation in social psychology as effect of spectators or auditors, effect of co-workers, rivalry, encouragement-discouragement, group discussion, and suggestion. The fact that experimental investigations of such problems are few, scattered, inconclusive and unverified is due to a failure to appreciate opportunities for research. He makes a plea for more experiments and the establishment of a research organization for the purpose.—*F. G. Allen* (Brown).

1524. **Demmler, H.** Eignungsfeststellung aus den Merkmalen der Handschrift. (The determination of ability from the characteristics of handwriting.) *Industr. Psychotech.*, 1937, 14, 182-191.—The purpose of this investigation was to determine the relationship, if any, between handwriting characteristics and automobile operators' characteristics of observation and reaction time. The subjects were young men. The tests were: (1) observation—a picture with persons in the foreground was projected, questions were then asked and the answers written with pencil, without time limit; (2) multiple observation—a picture was presented and a story read, subjects were questioned upon both, and the answers were again written; (3) concentration—a page of text material had certain letters blocked out, and the subjects had to correct these in a certain time; (4) reaction—a road test with certain visual and auditory stimuli. The handwriting was scored for width of letters, slant, height, flatness, pressure, quickness, and regularity. Means and deviations for all tests are given. It is concluded that one cannot predict with any certainty an automobile operator's characteristics of observation and reaction from his handwriting.—*J. C. G. Seidl* (Manhattan College).

1525. **Doll, E. A.** A practical method for the measurement of social competence. *Eugen. Rev.*, 1937, 29, 197-200.—The Vineland social maturity scale is reproduced in full, with a discussion of its special value for eugenical research.—*G. C. Schwesinger* (American Museum of Natural History).

1526. **Engelsmann, R.** Die Ursachen des Geburtenrückganges in den europäischen Staaten und bei Personen europäischer Abstammung. (The causes of the decline of the birth rate in the European states and in persons of European ancestry.) Münster: (Phil. Diss.), 1937. Pp. 227.—*R. R. Willoughby* (Brown).

1527. **Field, M. J.** Religion and medicine of the Ga people. New York: Oxford Univ. Press, 1937. Pp. 227. \$6.50.—*R. R. Willoughby* (Brown).



1528. Fox, F. **Family life and relationships as affected by the presence of the aged.** In *Various, Mental hygiene in old age*. New York: Family Welfare Association, 1937. Pp. 1-13. \$.40.—In this article the author discusses the maladjustments which may arise between the aged individual and his family. It is urged that the social worker should educate the community away from the idea of the utter hopelessness of old age and to a better understanding of the process of growing old. Old people can be happy in their children's homes when they are accepted as a part of the family circle; when they are well; when they have the capacity for living an active and varied life; and when they have been able to accept their own life crises serenely and are now able to accept old age with its implications of diminishing powers.—*M. Keller (Brown)*.

1529. Garrison, K. C. **A study of attitudes of college students.** *J. soc. Psychol.*, 1937, 8, 490-494.—A modification of Vetter's social and political attitudes test was given 52 freshmen, 18 sophomores, 36 juniors and 64 seniors at North Carolina State College. The results reveal higher scores for the seniors, indicating the possession of a more liberal attitude; students from the larger towns were found to be more liberal, although there is a tendency for this difference to decrease with four years of college training.—*E. D. Hunt (Brown)*.

1530. Gaw, E. A. **Ohio check list of cultural and fellowship behaviors.** *Psychol. Bull.*, 1937, 34, 748-749.—Abstract.—*R. H. Brown (Clark)*.

1531. Gemelli, A. **Nuove applicazioni dei metodi dell'elettroacustica allo studio della psicologia del linguaggio.** (New applications of electro-acoustic methods to the study of the psychology of language.) *Arch. ital. Psicol.*, 1937, 15, 89-112.—After a brief historical survey and a classification of electro-acoustic methods according to the type of analysis they will permit, the function of psychology in the study of language is discussed at length. The cathode-ray oscillogram is presented as an excellent means for studying the relationships of the two aspects of language: the objective, concerned with systems of symbols, and the subjective or expressive. Illustrated with 9 plates.—*C. J. Herrick (Pennsylvania)*.

1532. Graham, J. L. **A method of breaking up attitudes.** *Psychol. Bull.*, 1937, 34, 752-753.—Abstract.—*R. H. Brown (Clark)*.

1533. Gun, W. T. J. **The heredity of the royal caste.** *Eugen. Rev.*, 1937, 29, 19-31.—The alliances in the families of the European monarchs are studied in the light of their descent from eighteen-century ancestors. The main division which has persisted to the present has been between Catholic and Protestant sections; the stocks in the latter are markedly superior. Their physical characteristics have been predominantly Nordic; the non-Nordic or Latin proportion has constituted about one-fourth of the caste. The five strains of present European royalty (Bourbon-Hapsburg, Hesse-Darmstadt, Coburg, Danish, and Beauharnais) reveal in the order

named some feeble-mindedness, erratic and neurotic tendencies, intellect, artistic taste, hardness, common sense, and ability. Inter-marriage among royalty is now decreasing, and the Danish type is predominating. The caste is becoming somewhat anglicized.—*G. C. Schwesinger (American Museum of Natural History)*.

1534. Hagood, M. J. **Some contributions of psychology to social case work.** *Soc. Forces*, 1937, 15, 512-519.—This paper discusses some of the sources, types and uses of the contributions of psychology to the theory and practice of social case work. From psychological theory and from experimental and clinical psychology are drawn concepts and terminology, principles and directions of emphasis, and techniques and tools for the use of the worker's philosophy and formulation of policies, diagnosis, and treatment. The author wishes to impress upon social case workers the necessity of an adequate psychological background as a prerequisite to competent social case work.—*F. G. Allen (Brown)*.

1535. Harrasser, A. **Konstitution und Rasse, 1933, 1934, 1935, 1936.** (Constitution and race, 1933, 1934, 1935, 1936.) *Fortschr. Neurol. Psychiat.*, 1937, 9, 429-450.—This is the second article in a series on the subject. Like the first, it deals with publications on constitution and bodily structure. It is a summary of work on the following subjects in their relation to constitution: blood groups, heredity, stigmata of degeneration, capillary microscopy, bodily structure, criminals, manic-depressive psychosis, epilepsy, and involutional changes. Extensive bibliography.—*D. S. Oberlin (Delaware State Hospital)*.

1536. Harrasser, A. **Konstitution und Rasse, 1933, 1934, 1935, 1936.** (Constitution and race, 1933, 1934, 1935, 1936.) *Fortschr. Neurol. Psychiat.*, 1937, 9, 471-490.—This article concludes a series of three and is concerned with studies of race differences which have been made in the period from 1933 to 1936. Subjects studied include: growth, race physiology, race psychology, and race in relation to neurologic and psychiatric findings. The races included in the investigations are Mongols, Jews, Nordics, and negroes. Bibliography.—*D. S. Oberlin (Delaware State Hospital)*.

1537. Hartmann, G. W. **The relative influence of immediate and remote goals in motivating political behavior.** *Psychol. Bull.*, 1937, 34, 707-708.—Abstract.—*R. H. Brown (Clark)*.

1538. Hayes, S. P., Jr. **The inter-relations of political attitudes: I. Attitudes toward candidates and specific policies.** *J. soc. Psychol.*, 1937, 8, 459-482.—From a questionnaire presented to 8149 voters in 37 states, two weeks preceding the presidential election of 1932, it was learned that: (1) specific political attitudes and clusters of attitudes were significantly related to support of political candidates. In some groups the uncorrected tetrachoric correlation coefficients were as high as .89. (2) Both internationally and intranationally, Roosevelt supporters were significantly more "progressive" in their

attitudes than Hoover supporters. In general, their support of specific issues placed them between the Hoover supporters and the Thomas supporters, as a genuinely "liberal" party.—*E. D. Hunt* (Brown).

1539. **Hitschmann, E.** *Brahms e le donne.* (Brahms and women.) *Arch. gen. Neurol. Psychiat.*, 1937, 18, No. 3.—*R. R. Willoughby* (Brown).

1540. **Höfer, H.** *Sprechbereitschaft.* (Speech readiness.) *Arch. ges. Psychol.*, 1937, 98, 367-419.—The article discusses the significance of the word *Sprechbereitschaft*. Speaking is voicing of speech, and speech is formation of thought. Thought does not go over into speech, but becomes speech. The two pairs, thought and thinking, speech and speaking, are involved in speech readiness. Thought furnishes the stuff, speech the form. Investigation must proceed from the former to the latter. An experiment is described involving presentation of stimulus words, phrases, part sentences and jumbled sentences for the motivation of speech; observations are made by the experimenter of what takes place between thought and speech. Examples of stimulus words are given, procedure is described, difficulties are commented on, and a number of examples are given of the observations taken. The author outlines fields for further study.—*A. B. Herrig* (Michigan Central State Teachers College).

1541. **Höhnle, M.** *Rassen- und familienkundlicher Vergleich zwischen den zukünftigen Theologen und den anderen Schülern des Gymnasiums zu Münsterstadt.* (Racial and genealogical comparison between the prospective theologians and the other students in the gymnasium at Münsterstadt.) Würzburg: Triltsch, 1936. Pp. 27.—*R. R. Willoughby* (Brown).

1542. **Holmes, S. J.** *The negro's struggle for survival. A study in human ecology.* Berkeley: Univ. Calif. Press, 1937. \$3.00.—*R. R. Willoughby* (Brown).

1543. **Katz, D.** *Attitude measurement as a method in social psychology.* *Soc. Forces*, 1937, 15, 479-482.—Although the main uses of attitude measurement to date have rightly been of a practical and applied variety, measurement of attitudes may be extended and has a place in social psychology as well as in the applied fields. The following three possible uses are mentioned: for the accurate and reliable recording of the ideologies or attitudes of people; in the search for significant relationships between ideologies and psychological, physiological, and environmental factors; and in the delimitation or definition of the groups it is desired to study. Attitude measurement provides the best method so far available for getting at the affective, ideological, subjective side of man.—*F. G. Allen* (Brown).

1544. **Kelly, E. L.** *A preliminary report on psychological factors in assortative mating.* *Psychol. Bull.*, 1937, 34, 749.—Abstract.—*R. H. Brown* (Clark).

1545. **Kornhauser, A. W.** *A study of social attitudes of individuals in relation to their economic*

*position and personal desires.* *Psychol. Bull.*, 1937, 34, 707.—Abstract.—*R. H. Brown* (Clark).

1546. **Krout, M. H.** *A controlled study of the development and attitudes of radicals.* *Psychol. Bull.*, 1937, 34, 706-707.—Abstract.—*R. H. Brown* (Clark).

1547. **Künkele, P.** *Wege zur Überwindung von Hemmungen in sprachlicher Ausdrucksvermögen.* (Methods of overcoming inhibitions in speech expression.) *Z. pädag. Psychol.*, 1937, 38, 234-240.—Rules are given for preparing material for public speaking and for presenting it.—*M. E. Morse* (Baltimore).

1548. **Lepley, W. M.** *The social facilitation of locomotor behavior in the albino rat.* *Psychol. Bull.*, 1937, 34, 739.—Abstract.—*R. H. Brown* (Clark).

1549. **Linke, —.** *Teufelsaustreibung im XX Jahrhundert.* (Driving out the devil in the twentieth century.) *Krim. Mh.*, 1937, 11, 253-254.—In 1936 a railroad employee besought a holy man in the village to drive the devil out of his house. Satan was receiving reports through a neighbor spying through the roof, and was causing sickness in the family. When smoking the devil out with burning feathers proved unsuccessful, cabalistic, religious and sexual rites were tried (for a large fee). The exorcist was convicted of swindling and the young woman involved was sent to a mental hospital.—*M. E. Morse* (Baltimore).

1550. **Lurie, W. A.** *The measurement of prestige and prestige-suggestibility: a step towards a quantitative rational science of social behavior.* *Psychol. Bull.*, 1937, 34, 751-752.—Abstract.—*R. H. Brown* (Clark).

1551. **MacLagan, D. S., & Dunn, E.** *The experimental analysis of the growth of an insect population.* *Proc. roy. Soc. Edinb.*, 1934-35, 55, 126-139.—The paper discusses the internal resistance to growth even in the presence of an optimum physical environment. The experimenters found that density of population affected both the frequency of copulation and the rate of oviposition.—*M. Collins* (Edinburgh).

1552. **Maslow, A. H.** *The comparative approach to social behavior.* *Soc. Forces*, 1937, 15, 487-290.—This paper asks the question "How can the study of animals help us to understand the social behavior of humans?" The difference it is necessary to concentrate on for this investigation is that of culture. The author would modify F. H. Allport's definition of social psychology in both expanding and restricting the term "individual." Such problems as the following may profitably be studied by the inclusion of a control group of infra-human primates in experiments on the social behavior of humans: leadership, dominance, influence of language, aggressiveness, social-emotional expression; altruism, friendship, sexual behavior, systems of sex organization, group organization, co-operation, competition, social motivation.—*F. G. Allen* (Brown).

1553. **McGehee, F.** *The reliability of the identification of the human voice.* *J. gen. Psychol.*, 1937,

17, 249-271.—A review of a number of cases indicates that recognition of a person's voice has been admitted as legal evidence. There is no experimental evidence bearing on the accuracy of such recognition. To fill this gap a series of experiments was performed, using 740 auditors divided into groups. The basic procedure was as follows: A reader, hidden from the auditors, read a selection. The interest of the auditors was in content. At a later time the original reader and four others read selections, and the auditors were asked to pick out the voice of the original reader. After 2 days the identifications are 80% correct. After 2 weeks the accuracy falls rapidly, reaching 13% in 5 months. The accuracy was markedly diminished if several voices were heard at the first session, or if an attempt was made to disguise them. Sex and nationality differences were found. Further work is planned to determine the influence of general situation, motivation, age, etc.—*H. Schlosberg* (Brown).

1554. *Meier, N. C.* The perception of abstractions in graphic form. *Psychol. Bull.*, 1937, 34, 757.—Abstract.—*R. H. Brown* (Clark).

1555. *Miles, C. C.* The role of individual psychological differences in social psychology. *Soc. Forces*, 1937, 15, 469-472.—The study of individual differences is essential to the development of a scientific social psychology. Measurements of these differences on as many axes as possible, from the fundamental level of social stimulation and response up to the level of social institutions studied as complex psychological units, are the basis for a better understanding of human beings as integrated organisms and are thus a contribution to this scientific social psychology.—*F. G. Allen* (Brown).

1556. *Moore, J. E.* The effect of art training on mirror drawing. *J. exp. Psychol.*, 1927, 21, 570-578.—The evidence obtained in this investigation indicates that training in art does transfer to situations involving the tracing of a mirrored image. The transfer is most obvious during the earlier stages of the experiment.—*H. W. Karn* (Pittsburgh).

1557. *Mukerjee, K. C.* The social mind of the individual. *Indian J. Psychol.*, 1937, 12, 1-16.—This is the presidential address of the psychology section of the Indian Science Congress, 1937. It is impossible to think of a society apart from the individual, or of an individual apart from society. There is no essential conflict between the fundamentals of individual and of social psychology, despite the extreme collectivistic viewpoints of Durkheim and McDougall, both of whom would deify society. As a matter of fact, the individual self-consciousness develops along with the development of intellect, as may be seen in the evolution of the child and of primitive races. It is suggested that the cultural differences between people depend principally upon their mental divergences.—*L. A. Averill* (Worcester Teachers College).

1558. *Müller-Freienfels, R.* *Psychologie der Musik.* (Psychology of music.) Berlin: Vieweg,

1936. Pp. 124. RM. 3.20.—*R. R. Willoughby* (Brown).

1559. *Mursell, J. L.* *The psychology of music.* New York: Norton, 1937. Pp. 389. \$3.75.—The author's purpose is "to bring together the research materials bearing upon the psychology of music, and to interpret them in terms of a consistent view of the nature of mental activity." Throughout the work great emphasis is placed upon "mind" and relatively little upon the "ear." Physical and physiological factors receive little attention, since "musical relationships do not depend upon the physical properties of the sound wave or the physical action of the ear, but upon the integrating, organizing and selecting activity of the mind." The fundamental problem for the writer is how pure tonal design can objectify and convey strong and varied emotional significance. The following general topics are dealt with: the appeal of music; the perceptual organization of sound; musical organization; musical rhythm; musical listening; musical performance; composition; measurement and diagnosis of musical abilities; and the musical personality. In the chapter on musical abilities, the conclusion is drawn that no satisfactory tests of musical aptitude as yet exist, but the prospect is very hopeful. The book was written primarily for the musical reader rather than for the technically trained psychologist. Bibliography (605 titles).—*C. W. Fox* (Rochester).

1560. *Ojemann, R. H.* A revised method for the measurement of attitude. *Psychol. Bull.*, 1937, 34, 752.—Abstract.—*R. H. Brown* (Clark).

1561. *Pace, C. R.* The relation of liberal attitude toward knowledge of current affairs. *Psychol. Bull.*, 1937, 34, 705.—Abstract.—*R. H. Brown* (Clark).

1562. *Panconcelli-Calzia, G.* *Boden und Sprache.* (Basis and speech.) *Volk u. Rasse*, 1937, 12, 385.—The author refutes W. K. Sullivan's theory of the close relationship of natural phenomena (thunder, etc.) with their phonetic reproduction in various languages. In the present study, natives of Hamburg were exposed to the noises of sawing and pounding. They reproduced them with very different sounds, which corresponded, not with the actual auditory stimulus, but with the hearer's personal ideational world. There is nevertheless a connection between the impression of the source and its expression in the formation of sounds, words and speech. The process, however, is not to be conceived of mechanistically, but as the result of several simultaneous factors in a graduated development. The choice of a phonetic expression for a given sound depends on very intricate functions of the brain and especially of the vegetative nervous system, and changes not only from person to person, but also in the same person.—*P. L. Krieger* (Leipzig).

1563. *Peck, L., & Hodges, A. B.* A study of racial differences in eidetic imagery of preschool children. *J. genet. Psychol.*, 1937, 51, 141-161.—White, negro and Mexican preschool children were compared with respect to incidence and quality of visual eidetic images in order to determine the exist-



ence or non-existence of racial differences in eidetic ability. The results indicate that such racial differences exist. The negro group led in percentage of eidetic images and also in richness of detail and duration of images. The Mexican children are slightly higher in eidetic ability than white children. Whether these differences would be found above the preschool age level is suggested as a problem for future research.—*E. Heibredner* (Wellesley).

1564. **Petermann, B.** *Wege zur Rassenseelenlehre.* (Means for the study of the race-mind.) *Arch. ges. Psychol.*, 1937, **98**, 557-573.—Sources of material for investigation of differences in race-mind are reviewed. The author divides this material into (1) biologic and anthropologic, (2) systematic-psychologic, (3) race psychology dealing with a culture analysis.—*A. B. Herrig* (Michigan Central State Teachers College).

1565. **Raptschinsky, B.** *Christelijke en heidense elementen in het Russische volksgeloof.* (Christian and heathen elements in Russian popular belief.) *Mensch en Maatsch.*, 1937, **13**, 387-408.—*H. Beaumont* (Kentucky).

1566. **Rigg, M.** What features of a musical phrase have emotional suggestiveness? *Psychol. Bull.*, 1937, **34**, 756.—Abstract.—*R. H. Brown* (Clark).

1567. **Ringer, M.** *Experimentelle Beiträge zur Genese und Therapie des Stotterns.* (Experimental contributions on the genesis and therapy of stuttering.) Berlin: Triltsch & Huther, 1936. Pp. 49.—*R. R. Willoughby* (Brown).

1568. **Robinson, E. S.** Administrative and professional vocations as fields for social psychology. *Soc. Forces*, 1937, **15**, 492-493.—The psychological effects produced by the higher administrative and professional occupations might be a starting point for investigations of the psychological consequences of our culture. Specific psychological questions which might be raised regarding any given occupation are suggested.—*F. G. Allen* (Brown).

1569. **Rogers, M. V.** Comprehension in oral and silent reading. *J. gen. Psychol.*, 1937, **17**, 394-397.—In 24 good and 24 poor readers no appreciable differences in comprehension were found between oral and silent reading. These results are in agreement with those of Swanson and Anderson. They also indicate that poor eye-movements are symptoms, not causes, of poor reading.—*H. Schlosberg* (Brown).

1570. **Schoen, M.** Can we be socially intelligent? *Sci. Mon.*, N. Y., 1937, **45**, 555-561.—We can be socially intelligent if we deliberately and conscientiously set out to be so. First we must rid ourselves by a process of education of some traditional modes of thought about human beings and human nature; second, the "money changers" (those who use the fruits of science for selfish ends) must be driven from the "temple of science"; and finally, we must apply to social ills the knowledge which the sociological and biological sciences have given us about human beings.—*O. P. Lester* (Buffalo).

1571. **Silvey, C. T.** A study of personal reactions to the solmization method of teaching music reading. *Peabody Coll. Contr. Educ.*, 1937, No. 193. Pp. 82.—The chief purposes of this study are (1) to check upon the degree of retention of the sol-fah syllables with musicians in high school, college, and church singing organizations, and (2) to assist music teachers in crystallizing their opinions with respect to the problem. One questionnaire and two interview forms were used to obtain data. It is concluded that there is little survival value in the sol-fah method in the opinion of high-school, college and church chorus student singers, while representatives of college music departments and professional singers are of the opinion that there is a positive survival value in the method. The author's recommendations are given.—*F. G. Allen* (Brown).

1572. **Sonntag, A.** *Eine empirische typenpsychologische Untersuchung über Arten des künstlerischen Erlebens.* (An empirical type-psychology investigation on the kinds of artistic experience.) Düsseldorf: Nolte, 1937. Pp. 47.—*R. R. Willoughby* (Brown).

1573. **Stein, L.** *Sprach- und Stimmstörungen und ihre Behandlung in der täglichen Praxis.* (Disturbances of speech and voice and their treatment in daily practice.) Vienna, Leipzig, & Bern: Weidmann, 1936. Pp. 155. RM. 20.00.—*R. R. Willoughby* (Brown).

1574. **Stone, C. L.** Identification of nationality in music. *Psychol. Bull.*, 1937, **34**, 756.—Abstract.—*R. H. Brown* (Clark).

1575. **Strüder, J.** *Beitrag zur Homosexuellenfrage.* (Contribution to the problem of homosexuals.) *Krim. Mh.*, 1937, **11**, 217-221.—Strüder distinguishes between true homosexuality on the basis of constitutional defect, perhaps of endocrine origin, and pseudohomosexuality due to psychic causes. He gives a classification of the subtypes, with clinical examples. The defect is not inherited directly, since true homosexuals are usually the last of their line. The Anlage is therefore equivalent to a lethal factor for a given family. Endocrine disturbances and mental deviations due to them should be sought among collateral branches. The hormone theory would also explain temporary perversions. Studies of twins point to the constitutional determination of true homosexuality. The decision as to whether a case is primary or secondary depends in last resort on the person's testimony, which is obviously difficult to obtain and evaluate.—*M. E. Morse* (Baltimore).

1576. **Strüder, J.** *Beitrag zur Homosexuellenfrage.* (Contribution to the question of homosexuals.) [Conclusion.] *Krim. Mh.*, 1937, **11**, 248-251.—Pseudohomosexuals (about 95% of all homosexuals apprehended) are produced by various external causes. Homosexual prostitutes have nothing to do with genuine homosexuality, but use this method to get money for heterosexual affairs, or they may be penniless boys, at first unsophisticated. Homosexuality has probably increased

absolutely in post-war years; at least a greater number of arrests have been made, because of the changed attitude toward sexual delinquency. Boys' clubs were an important factor in spreading the practice. Certain persons of this era posing as sexual reformers were in reality communists intent on destroying the bourgeois family through homosexuality, as revealed clearly in the League of Nations congress for sexual reform in 1930. The distinction between genuine and pseudohomosexuals is important legally. The former are only partially responsible and not immoral, although they should be kept in custody. Bisexuals are comparable to psychopaths, and should be so treated.—*M. E. Morse* (Baltimore).

1577. **Thorndike, R. L.** The effect of discussion upon the correctness of group decisions, when the factor of majority influence is allowed for. *Psychol. Bull.*, 1937, 34, 750-751.—Abstract.—*R. H. Brown* (Clark).

1578. **Thurnwald, R.** Black and white: studies of East Africa. London: Routledge, 1935.—*R. R. Willoughby* (Brown).

1579. **Trapp, C. E.** Lunacy and the moon. *Amer. J. Psychiat.*, 1937, 94, 339-343.—A review of the beliefs concerning the influence of the moon, and the resulting effects on the practices and languages of peoples.—*R. Goldman* (Boston Psychopathic Hospital).

1580. **Van Riper, C.** Effect of devices of minimizing stuttering on the creation of symptoms. *J. abnorm. soc. Psychol.*, 1937, 32, 185-192.—A large part of the handicap of stuttering consists of the devices deliberately or involuntarily used to minimize the speech difficulty. Symptom analysis and symptom history both show the same underlying causes for these devices: the need to avoid, postpone, or start the feared word, the need to destroy the expectancy of stuttering, the need to release the speech mechanism from experienced blocks, and the need to disguise these symptoms. These devices soon become habitual and involuntary. Treatment of stuttering should aim at three goals: building up a greater margin of cerebral dominance, the lack of which accounts for the primary symptoms; the systematic destruction of the bad emotional attitudes associated with experience and expectation of stuttering, which affect this margin of dominance and precipitate secondary symptoms; and the unconditioning of the handicapping secondary symptoms, which are divided into reactions conditioned to expectancy and those conditioned to experience of speech block.—*C. H. Johnson* (Boston Psychopathic Hospital).

1581. **Versteeg-Solleveld, C. M.** Das Wiegenlied. (The cradle song.) *Imago, Lpz.*, 1937, 23, 304-329.—The cradle song in all ages and cultures is among other things an expression of various tendencies on the part of the mother, e.g. identification, rivalry, aggression. The literature of cradle songs includes examples suited to every such psychological purpose. Sometimes the representation goes far beyond the

immediate situation of quieting the child. Other instances are less remote. There is a bibliography covering several languages and stages of culture.—*H. D. Spoerl* (American International College).

1582. **Vierkandt, A.** Die entwicklungspsychologische Theorie der Zauberei. (The genetic-psychologic theory of sorcery.) *Arch. ges. Psychol.*, 1937, 98, 420-489.—The author challenges the doctrine of the animistic origin of sorcery, as well as the later Lévy-Bruhl teachings that mysticism is basic to belief in magic. He believes that genetic psychology has a better explanation. He proposes two theories of origins, the world viewpoint approach and the genetic approach. He explains the primitive world interpretation in contrast with our later rationalistic interpretation, and shows how belief in magic might arise from it. The article reviews and criticizes the Lévy-Bruhl books. The genetic psychology approach stands both as a complement and a contrast to the world interpretation approach in explanation of magic. The author shows how religion has grown into interpretation of natural phenomena, and how most forms of magic may be explained.—*A. B. Herrig* (Michigan Central State Teachers College).

1583. **Wadia, A. K.** A psychological study of the aristocratic and democratic principles of social organisation. *Indian J. Psychol.*, 1937, 12, 37-48.—Man has instincts that are egoistic in the sense that they impel him toward self-preservation, but they have been kept in check by the demands of his gregarious life. In the course of millennia this gregarious life has come to be more and more consciously and deliberately organized so as to govern action; the process has not been altogether successful. The dispute between fascism and communism concerns the place of the acquisitive instinct and the instinct of pugnacity. Freedom and equality have turned out to be incompatible ideas within the framework of democracy. Communism favors equality rather than freedom; fascism favors neither, and is a strong reaction against democracy. Psychologically both are unsound, for neither equality nor pugnacity is an ultimate fact of human nature.—*L. A. Averill* (Worcester Teachers College).

1584. **Waples, D.** People and print; social aspects of reading in the depression. Chicago: Univ. Chicago Press, 1937. Pp. 244. \$1.50.—*R. R. Willoughby* (Brown).

1585. **Ward, E.** Marriage among the Yoruba. *Anthrop. Ser. Catholic Univ. Amer.*, 1937, No. 4. Pp. 55.—*R. R. Willoughby* (Brown).

1586. **Werner, R.** Über den Anteil des Bewusstseins bei Schreibvorgängen. (The role of consciousness in the writing process.) *Neue psychol. Stud.*, 1937, 11, 1-72.—The paper is divided into two main parts: (1) the inner development of writing, and the influence of vision, of tactile-kinesthetic sensations, of speech, of the nature of the material, etc.; (2) the influence of consciousness on the technical aspects, the spatial arrangement, the formation of words, the motor coordinations, the

trend of thought, etc. Introspective reports, questionnaires, and recording films were used.—G. F. J. Lehner (Brown).

1587. Williamson, R. W. *Religion and social organization in central Polynesia*. New York: Macmillan, 1937. Pp. 374. \$9.00.—R. R. Willoughby (Brown).

1588. Winslow, C. N. *A study of the extent of agreement between friends' opinions and their ability to estimate the opinions of each other*. *J. soc. Psychol.*, 1937, 8, 433-442.—The opinions of 86 pairs of friends were found to correlate  $.24 \pm .07$ . The coefficient of correlation between opinions of girl-girl pairs is considerably lower than that for boy-boy pairs, but girls were better able to guess the opinions of their friends than were boys. Wide differences were revealed by analysis of the correlations under the different topics; in regard to opinions on foreign affairs it seems that the longer the friendship the less becomes the agreement between friends. Friends' opinions in friendships of 3 to 5 years' standing corresponded more closely than opinions of friends in the 0-3 year or the 6-20 year groups.—E. D. Hunt (Brown).

[See also abstracts 1192, 1219, 1259, 1342, 1345, 1372, 1389, 1415, 1436, 1449, 1463, 1475, 1478, 1489, 1490, 1501, 1620, 1649, 1659, 1671, 1674, 1682, 1687, 1693, 1698, 1701.]

## CRIME AND DELINQUENCY

1589. Brown, F. *A comparative study of stability and maturity of non-delinquent, pre-delinquent, and delinquent boys*. *Psychol. Bull.*, 1937, 34, 779.—Abstract.—R. H. Brown (Clark).

1590. Burlingham, S. *Casework with adolescents who have run afoul of the law*. *Amer. J. Orthopsychiat.*, 1937, 7, 489-499.—The author considers three cases of adolescent delinquency in the light of the more recent approach to such problems, that of taking into consideration not only the outer influences of the environment (sociological approach), but also the inner drives of the individual (psychological approach).—E. D. Hunt (Brown).

1591. Drukker, L. *De sexuele criminaliteit in Nederland 1911-1930*. (Sexual criminality in the Netherlands, 1911-1930.) Haag: Martinus Nijhoff, 1937. Pp. xii + 154. 3.60 guilders.—A survey of sexual delinquency in the Netherlands during the years 1911-1930 is given. English summary.—R. R. Willoughby (Brown).

1592. Haucke, —. *Sexualbriefschreiber*. (Writers of sex letters.) *Krim. Mh.*, 1937, 11, 193-199.—Writers of pornographic letters are of two types: those for whom letter writing is a substitute for intercourse, which for some reason (usually impotence) is impossible; and the true graphic exhibitionists or sadists, for whom it is an addition to intercourse and a means of continuous stimulation. The first group demand an answer from those of like kind, whom they find, by code, through correspondence clubs, matrimonial bureaus, or newspaper advertise-

ments; or they subscribe for regular letters (a new development of prostitution). The second class do not want an answer, give no address, and are satisfied with the dismay of their victims, who are almost invariably young girls.—M. E. Morse (Baltimore).

1593. Immesberger, A. *Soziale und ethische Probleme bei der Kindestötung*. (Social and ethical problems in child murder.) Mannheim: Hakenkreuzbanner Verl. u. Druckerei, 1937. Pp. 19.—R. R. Willoughby (Brown).

1594. Linehan, J. C. *The rational nature of man, with particular reference to the effects of immorality on intelligence*. *Phil. Stud.*, 1937, No. 37. Pp. 127.—The monograph sets forth the views of St. Thomas on the nature of intellect, knowledge and morality, and upholds the thesis that habitual immorality has a detrimental effect upon the intellect of man. There is also a brief discussion of the results of modern investigations of the correlation between intellect and morality. Short bibliography.—J. Brockwell (Brown).

1595. MacPherson, H. S. *The juvenile court meets the mental defective*. *Proc. Amer. Ass. ment. Def.*, 1937, 42, 44-58.—Data from a study of one thousand juvenile delinquents in the Hartford Juvenile Court are analyzed, particularly with reference to its group of mental defectives, from the points of view of sex, intelligence, offense, disposition of case, recidivism, economic status of family, and personal characteristics. It is the opinion of the court that mental defectives who are continually before it need institutional training, and could, if such were given, be paroled later with a fairly high expectancy of success. Much delinquency among them could be avoided. Emphasis in a public program for their control is placed on the early recognition of their deficiency and on special training to preserve their social utility, or institutionalization for some with adequate provision for parole following training. Tables, graphs and bibliography are incorporated.—M. W. Kuenzel (Children's Home, Cincinnati).

1596. O'Connor, Z. C. *A study of runaways from a correctional school*. *Psychol. Bull.*, 1937, 34, 780-781.—Abstract.—R. H. Brown (Clark).

1597. Rathsam, B. *Sadistische Kindesmisshandlung*. (Sadistic abuse of children.) *Krim. Mh.*, 1937, 11, 244-248.—Dealing with child abuse requires great discretion. If the child is not removed from the parents, their punishment is disadvantageous to him. Unless mistreatment is too flagrant, continuous observation of the family may be preferable. Abuse due to general lack of inhibition or hatred of a particular child must be distinguished from torture. Sadists are secretive, make preparations, and are ingenious in devising punishments, which often have a religious coloring. A sexual motive is not always clear. The child submits with fascinated terror, perhaps based partly on guilt feelings, since sadism also begets sadism in him, as well as masochism, pathological lying, and obsessions. These adult sadists may make an impression



of harmlessness, and when accused they exhibit groveling self-pity. Although their earlier histories have often shown the likelihood of subsequent sadism, they cannot legally be kept under observation at an early stage.—*M. E. Morse* (Baltimore).

1598. Sacks, J. G. Honor among criminals? *J. crim. Law Criminol.*, 1937, 28, 249-252.—The fact that almost no prisoners at the District of Columbia Reformatory at Lorton, Virginia, attempt to escape in spite of the absence of the usual walls and armed guards is due to the following reasons: attitude of fair play toward the inmates, absence of over-strict confinement, honorable attitude among the inmates, hope of early legal release, fear of inability to avoid recapture in case an escape is made, satisfactory or superior living conditions, and esprit de corps among the great majority of inmates, who would oppose any attempt at escape.—*L. Ackerson* (Illinois Institute for Juvenile Research).

1599. Selling, L. S. A comparative methodology in the study of delinquent behavior. *J. soc. Psychol.*, 1937, 8, 483-487.—Selected delinquents were studied by means of: (1) paper tests of honesty, ethics and civics; (2) a picture test; and (3) the child's evaluation of himself as ascertained in the form of an autobiography. Comparison of the results of the methods used leads the author to conclude that "it is doubtful whether any of these alone justifies the decision that the individual possesses traits characteristic of delinquency, as such, but the combination of the three may perhaps be shown to reveal diagnostic information."—*E. D. Hunt* (Brown).

1600. Sloane, P. A case of delinquency. *Amer. J. Orthopsychiat.*, 1937, 7, 465-473.—This case is presented because of the clear picture it gives of a delinquent who was able to give up his delinquent pattern of behavior for a definite period under the guidance of a welfare worker. It illustrates the importance of the psychiatric study in attempting to evaluate the factors behind cases of delinquency and the possible methods of approach in treating them.—*E. D. Hunt* (Brown).

[See abstracts 1374, 1426.]

#### INDUSTRIAL AND PERSONNEL PROBLEMS

1601. Beinhoff, W. Verfahren zur Feststellung und Schulung der Raumvorstellung. (Procedures for ascertaining and training the capacity for space representation.) *Industr. Psychotech.*, 1937, 14, 148-152.—Various arguments for the presentation of material to students by the "hand-perspective-drawing" method and the "tin-model" method are presented. It is concluded that the "tin-model" method is the better.—*J. C. G. Seidl* (Manhattan College).

1602. Clark, H. F., & others. Life earnings in selected occupations in the United States. New York: Harper, 1937. Pp. 428. \$5.00.—*R. R. Willoughby* (Brown).

1603. Clark, H. F. Life earnings in selected occupations. *Occupations*, 1937, 16, 221-224.—Com-

pilation of data on average life and annual earnings in sixteen occupations.—*R. H. Brown* (Clark).

1604. Gardiner, G. How to handle grievances. New York: Elliott Service Co., 219 E. 44th St., 1937. \$0.60.—*R. R. Willoughby* (Brown).

1605. Hays, H. Personality and other things (a semi-autobiography). New York: American Physician, Inc., 1937. Pp. 172. \$2.00.—A discussion of the development of personality in the practice of medicine. Introduction by H. C. Link.—*R. R. Willoughby* (Brown).

1606. Hellwig, A. Vernehmungstechnik. (Technique of examination in court.) *Industr. Psychotech.*, 1937, 14, 161-173.—Five principles are suggested and elaborated upon. These are: (1) be very calm and unaffected; (2) try to elicit a free statement for an answer; (3) never lose your temper; let the witness or accused answer in full—your time will come; (4) know positively all facts which the witness may wish to falsify or "not remember"; (5) try either by promise or threat to determine the real substance of any declaration.—*J. C. G. Seidl* (Manhattan College).

1607. Huth, A. Seelenkunde und Arbeitseinsatz. (Psychology and work quota.) München: Schick, 1937. Pp. 208. M. 3.60.—*R. R. Willoughby* (Brown).

1608. Lahy, J. M., & Korngold, S. Recherches expérimentales sur la psychologie des sujets qui se blessent fréquemment au travail. (Experimental studies on the psychology of subjects who are often injured at work.) *J. Psychol. norm. path.*, 1937, 34, 291-295.—Making an analysis in terms of *D/σ<sub>p</sub>*, the authors show that (1) in psychomotor and mental tests without a speed factor, often-injured and normal subjects are equally accurate, (2) in tests where the subjects themselves regulate the speed of work, often-injured workers are as rapid as normal workers except in very complex tasks, where they lose speed in order to be accurate, (3) often-injured workers are at a disadvantage in tasks with a speed limit or with superimposed rhythm, (4) their inferiority is augmented as the task is complicated or speeded up, (5) in the often-injured subjects there seems to be, at the time of an accident, a disorder of the mechanisms of defense reactions, (6) it is not fair to say that by a constitutional awkwardness the often-injured worker causes the accident himself, but it is true that in dangerous situations he does not have adequate defense reactions.—*R. E. Perl* (New York City).

1609. McNassor, D. J. Evaluating youth work-project results. *Occupations*, 1937, 16, 239-244.—Rating by supervisors of 241 NYA project workers on an 11-point rating scale showed that unemployed youths can prepare for employment in private industry on a part-time work program.—*R. H. Brown* (Clark).

1610. Münnich, K. Der Mensch als Unfallursache bei Flugzeugunglücken. (Man as the accident cause in airplane disasters.) *Industr. Psychotech.*,

1937, 14, 140-147.—A study of the reports of the U. S. Department of Commerce Statistics, 1928-1936, of commercial airplane accidents.—J. C. G. Seidl (Manhattan College).

1611. Parr, F. W. **How's your horoscope?** *Occupations*, 1937, 16, 236-238.—Predictions of vocational success and change of occupation for an army officer differ widely from one astrologer to another.—R. H. Brown (Clark).

1612. Rühl, H. **Verschiedenheit technisch-praktischer und technisch-konstruktiver Anlagerichtungen.** (The difference between technical-practical and technical-constructive capacity trends.) *Industr. Psychotech.*, 1937, 14, 156-160.—A discussion of the paper by Hische (see XI: 2889). The same conclusion is found, viz., that there is a difference between the two capacities, but it is extremely difficult to determine and much more experimental evidence is needed to find a definite discriminatory point.—J. C. G. Seidl (Manhattan College).

[See also abstracts 1310, 1418, 1524, 1616, 1685.]

#### EDUCATIONAL PSYCHOLOGY (incl. Vocational Guidance)

1613. [Anon.] **Resources for the consultant.** *J. consult. Psychol.*, 1937, 6, 104-105.—Of 72 reading tests designed since 1920 for grades 7 through 12, only 24 have been located for which there are available statistical data about reliability coefficients and correlations with other variables. Less research seems to have been carried out with high school reading tests than with tests used at the college level. Tests for senior high school use receiving most statistical attention are: Haggerty reading examination, Sigma 3, Thorndike-McCall reading scale, Monroe standardized silent tests, and Inglis tests of English vocabulary. Correlations of reading and intelligence tests tend to be relatively high. There are comparatively few correlations between high school reading tests and measures of scholarship. The senior high school tests with the highest reliability coefficients are: Iowa silent reading tests, advanced test (revised); progressive reading tests, vocabulary (of the advanced form); and Inglis and Van Wagenen scales.—P. S. de Q. Cabot (Simmons).

1614. [Anon.] **The radio service man.** *Occupations*, 1937, 16, 264-268.—Abstract of literature.—R. H. Brown (Clark).

1615. Bieth, P. **Le rendement scolaire et social d'une école d'arriérés.** (The academic and social service of a school for backward children.) *J. Psychol. norm. path.*, 1937, 34, 265-291.—On the basis of 30 years' inquiry at a school for backward children, the author discusses the characteristics which distinguish children at such a school from normal children, how much instruction such a school can give, and the social service rendered measured in terms of how many children, 5, 10, or 15 years after leaving school, are self-supporting. He concludes that (1) there are few cases of simple backwardness;

it is usually complicated by personality and moral problems; (2) the academic achievement depends mostly on intelligence; (3) adaptation is primarily dependent upon social milieu; (4) stability, which is important for economic independence, depends upon psychic constitution and intellectual level; (5) most of the students from the school attained a satisfactory economic adjustment; (6) criminal tendencies are related to intellectual level, familial education, and hereditary character; (7) out of 193 ex-students located, 79.7% had attained an adequate social adjustment, 10.8% a partial one and 9.3% a doubtful one.—R. E. Perl (New York City).

1616. Christiaens, A. G. **L'attention considérée au point de vue de l'orientation professionnelle.** (Attention considered from the point of view of professional orientation.) *Bull. Off. intercommun. Orient. prof.*, 1935, 15, No. 60, 1-8.—A comparison was made between the results obtained from a group of adolescents and those from a group of experienced adult workers (typographers, mechanics, draughtsmen, and book-binders) for different attention tests (Bourdon, Toulouse and Piéron, Ferrari, and Glazof). The author concludes that "among professionals there is a kind of specialized attention which has not yet appeared in the adolescents and that attention should be measured, therefore, by tests which offer a certain analogy to their occupations."—R. Nihard (Liège).

1617. Eisner, H. **The classroom teacher's estimation of intelligence and industry of high school students.** *Teach. Coll. Contrib. Educ.*, 1937, No. 726. Pp. 108.—10 experimental classes of 380 pupils (10 different teachers) and 10 control classes of 10 different teachers and 366 pupils were rated by the teachers for industry and intelligence (although these words were not used). The rating took place at intervals during the first 26 days of the semester. The "experimental" teachers made out reports on rating devices (given in the appendix); training was given them in making their observations. The control teachers were given no help or training. Both groups of pupils were given two forms of the Otis S-A intelligence test. The criterion for industry was the mean rating in industry made near the end of the semester by other teachers of the pupils. Correlations between intelligence test score and judgment of intelligence and industry and the industry criterion increased with each succeeding report. All correlations, however, are low (below .55), and the intelligence correlations are the lower. Teachers seem unable to estimate intelligence or industry on the basis of early classroom manifestations, and the use of a devised observational technique does not improve these estimates. The bibliography lists 23 titles.—J. M. Stalnaker (Princeton).

1618. Fay, P. J. **The effect of the knowledge of marks on the subsequent achievement of college students.** *J. educ. Psychol.*, 1937, 28, 548-554.—Members of one of two equated groups of students in elementary psychology were informed that they could secure their decile ranks on each four-weeks

test in terms of A, B, C, D, and E, and members of the second group were not permitted to know their marks. Knowledge of the test results was shown to be beneficial for "A" students, detrimental to "B" students, and slightly beneficial to "C" students. "D" and "F" students were not considered in the experiment because they were of necessity informed regarding their deficiency at the mid-semester. Students of low intelligence are said to be in particular need of a knowledge of their marks as an incentive to increased achievement.—*A. W. Melton* (Missouri).

1619. **Hanselman, H.** *Therapeutic pedagogy in Switzerland.* *J. except. Child.*, 1937, 4, 49-55.—The author presents a brief historical account of the development of *Heilpädagogik* in Switzerland, and summarizes the work done by various organizations for children in special need, e.g., the blind, the deaf and hard of hearing, mental defectives, problem children, cripples, et al.—*L. A. Averill* (Worcester Teachers College).

1620. **Hawkins, G.** *Educational experiments in social settlements.* New York: Amer. Ass. for Adult Educ., 1937. Pp. xvi + 145. \$1.00.—*R. R. Willoughby* (Brown).

1621. **Hoffmann, A.** *Das Schrifttum zur pädagogischen Menschenkunde.* (The literature of educational anthropology.) *Z. pädag. Psychol.*, 1937, 38, 240-244.—A consideration of the place of educational anthropology in the normal school curriculum; the formation of a bibliography, and an outline of the classification.—*M. E. Morse* (Baltimore).

1622. **Jaedicke, H. G.** *Zur biologischen Gestaltung der Freizeit. Untersuchungen über die Wirkung verschiedener Feriengestaltung grossstädtischer Schüler.* (Toward the biological organization of vacations. Studies on the effect of different organizations of vacation time in pupils in large cities.) Berlin: Pfau, 1937. Pp. 61.—*R. R. Willoughby* (Brown).

1623. **Kandel, I. L.** *The strife of tongues.* Melbourne: Melbourne Univ. Press in association with Oxford Univ. Press, 1937. Pp. 34. 1/6.—The author, in defining the meaning of freedom in education, finds that "the essence of freedom and free inquiry is the recognition of responsibility. Not until the concept of responsibility is incorporated in the discussion of education in a free society, can education be expected to make its rightful contribution to a troubled world."—*J. McV. Hunt* (Brown).

1624. **Maggia, O.** *Ricerche sull'allenamento dei fanciulli dal sesto all'ottavo anno di età agli esercizi di velocità.* (Studies on the training of children from six to eight years of age with speed exercises.) *Pediat. Med.-prat.*, 1936, 11, 412-417.—By means of a methodical repetition of a given exercise, a high state of learning can be established in children from six to eight years of age without causing them any harm. A higher degree of training is obtained in the older children, especially in those having a high physical development. The duration of the state of skill is brief, as after a week's interval it had practically disappeared in the case of the younger or

weaker children, and had become greatly lessened in the older and stronger ones after a three-week interval.—*L. Canestrelli* (Rome).

1625. **Manwiller, C. E.** *Reading difficulties.* *Pittsb. Schs.*, 1937, 12. Pp. 30.—This bulletin presents discussion of the factors underlying reading difficulties; new instruments for diagnosis; and remedial materials in reading and arithmetic. Bibliography.—(Courtesy *J. educ. Res.*)

1626. **McGarvey, J. W.** *Transfer of learning in elementary psychology (1) to popular misconceptions, and (2) to social science courses.* *Psychol. Bull.*, 1937, 34, 704.—Abstract.—*R. H. Brown* (Clark).

1627. **Mulroy, E. F.** *Marks made following a program of remedial instruction.* *Sch. Rev.*, 1936, 44, 753-758.—A study in which remedial instruction in reading is found to reduce the number of failures in high school.—(Courtesy *J. educ. Res.*)

1628. **Naumann, I.** *Gedanken zur Arbeitserziehung in Anstalten.* (Thoughts on occupational education in institutions.) *Z. Kinderpsychiat.*, 1937, 4, 73-77.—*D. Shakow* (Worcester State Hospital).

1629. **Orleans, J. S.** *Measurement in education.* New York: Nelson, 1937. Pp. 477. \$2.75.—A study of the use of measurements in the educational policy which takes as its starting point the functioning of the school and the need for measurement in that functioning.—*R. R. Willoughby* (Brown).

1630. **Paul, J. B.** *Class frequency.* *J. higher Educ.*, 1937, 9, 480-484.—Instructors in three courses at Iowa State Teachers College met control groups five times a week, regular groups three times. Groups were matched for intellectual ability. Small numbers and inadequate testing procedures raised doubt as to the results. Slight benefit in learning is reported for the control group, although individuals with superior mental ability in both groups outran the course work. The author suggests needed co-operative research in this and allied fields of classroom hours, instruction and the learning problem.—*R. A. Brotemarkle* (Pennsylvania).

1631. **Pavan, A.** *A follow-up study of Philadelphia public school graduates.* *Occupations*, 1937, 16, 252-259.—Study of 5898 high school and vocational school graduates in 1935 shows a high degree of employment stability and high correlation between school averages and occupational adjustment.—*R. H. Brown* (Clark).

1632. **Ram, P.** *A study of the professional judgment of learning.* *Indian J. Psychol.*, 1937, 12, 49-57.—As an aid in ascertaining what factors determine teaching judgment, and in particular to discover how academic qualifications, professional information, age, and sex are related to the ability of a teacher to form judgments about teaching situations, Manry's professional test for teachers was administered to 51 men and 28 women teachers at Lahore and in the Punjab. It is concluded that women possess better judgment in teaching problems than men; that the teacher who is alert to his sur-



roundings and current problems usually has sound judgment upon teaching problems; and that teaching experience affects teaching judgment favorably.—*L. A. Averill* (Worcester Teachers College).

1633. **Rosenberger, H.** *Die Korrelation zwischen der Turnnote und den wissenschaftlichen Fachnoten an Münchener Volks- und Mittelschulen.* (The correlation between marks in gymnastics and marks in scientific subjects in Munich folk and middle schools.) *Leibesübung. körper. Erzieh.*, 1934, 53, 338-343; 361-368; 383-388.—*R. R. Willoughby* (Brown).

1634. **Schröder, H.** *Zur Psychologie des Lehrer-Schüler-Verhältnisses in der Berufsschule.* (Psychology of teacher-pupil relationships in vocational schools.) *Z. pädag. Psychol.*, 1937, 38, 245-253.—Schröder discusses the weakness of sociological bonds between vocational teachers and pupils; antagonism toward the school; the teacher's service to those who, because of economic conditions, will remain unemployed; and arousing vocational pride and desire for economic independence among those destined to unskilled occupations. Resistance is largely due to the "rule of might," which in different guises dominates all the pupils. It is greater in industrial and urban than in business and rural schools. At the outset, the apprentice sees the school merely as a hindrance to his actual job, and only as the school develops his vocational ideal does his attitude change. In occupations involving personal service, and among girls, whose social and esthetic tastes are strong, transference from employer to teacher is easier. The hunger for recognition, especially for practical work, is much stronger among vocational than among general school pupils.—*M. E. Morse* (Baltimore).

1635. **Stalnaker, J. M.** *Essay examinations reliably read.* *Sch. & Soc.*, 1937, 46, 671-672.—Although it is admittedly easier to obtain a high reliability in the scoring of objective tests, essay-type questions may be scored with satisfactory reliability. The College Entrance Examination Board, using many essay-type questions, has each paper given part scores by a series of readers. The reliability of the total score is then checked by an independent regrading of a sampling of the papers, from which the score has been removed. "With a single exception (English, .84) all papers were read with reliabilities over .90 and several with reliabilities over .98."—*M. Lee* (Chicago).

1636. **Steadman, J. M., Jr.** *Vocabulary building.* Atlanta: Turner E. Smith & Co., 1937. Pp. 217. \$1.20.—*R. R. Willoughby* (Brown).

1637. **Strang, R.** *Behavior and background of students in college and secondary school.* New York, London: Harper, 1937. Pp. xiv + 515. \$4.00.—This is the second of a five-volume series of summaries of personnel work. The author has brought together some of the most pertinent findings of investigations concerning adolescent problems, physical characteristics, intelligence, scholastic achievement, personality, attitudes and interests, social

and economic background, and economy of time and money. To these she has added a last chapter on the contributions and limitations of the results of investigations. Each chapter is concluded with an excellent summarization and types of research "needed to fill gaps and deficiencies in the existing body of knowledge." A bibliography of 1310 references and a few tables are given in the appendix.—*K. S. Yum* (Chicago).

1638. **Strang, R.** *Counseling technics in college and in secondary schools.* New York: Harper, 1937. Pp. x + 159. \$2.00.—Designed to serve persons dealing with students or preparing for such service, this is the third volume in a series by the same author. The titles of the first two volumes are: *Personal Development and Guidance in College and Secondary Schools* and *Behavior and Background of Students in College and Secondary Schools*. This volume describes and discusses technics for the two main processes involved in personnel work, that of appraisal or diagnosis and that of adjustment or therapy. A "brief résumé of facts and best opinions regarding personnel records, the case study, the interview, observation and rating, and several less widely used introspective technics" constitutes the major portion of the book. The functional interrelationship of the various technics singled out is stressed. Discussion of daily schedules, intelligence and achievement tests, and questionnaires are omitted, having been treated in Volume II. Points at which more research is needed are indicated at the end of discussions of the several technics. Samples or full descriptions of forms, blanks or records are included in many instances.—*D. Bailey* (Mt. Holyoke).

1639. **Street, R. F.** *Critical factors in educational placement.* *Psychol. Bull.*, 1937, 34, 778-779.—Abstract.—*R. H. Brown* (Clark).

1640. **Stuit, D. B.** *Differential characteristics of superior and inferior students.* *Sch. & Soc.*, 1937, 46, 733-736.—Students in the upper and lower quarters of the Teachers College of the University of Nebraska, according to their average grades in academic subjects in the first semester, were compared as to scores in the Ohio psychological examination, Bell adjustment test and Iowa silent reading test. The difference was about 2 sigma units in the Ohio test. In reading comprehension there is a greater difference than in rate. In the Bell inventory there is a slight difference in favor of the inferior student. The two groups were much alike in number and distribution of high school units. The average superior student is about a year younger than the average inferior student.—*M. Lee* (Chicago).

1641. **Torgerson, T. L., & Hellfritsch, A.** *Report of the 1937 Wisconsin achievement testing program.* Madison: School of Education & Bureau of Records & Guidance, 1937. Pp. 28.—Report of the Wisconsin achievement testing program (1937) including tests in algebra, geometry, general science, biology, physics, American history, and language usage tests, fact-theory test in science, cause-relationship test in

science, and controlled experimentation test in science. Frequency distributions, mean part-scores, mean total-scores, mean, median, and quartile scores, standard deviations, percentile norms, and T-score norms are given.—(Courtesy *J. educ. Res.*)

1642. Van Denburg, J. K. An objective rating scale for teachers of biology in high schools. *Sch. & Soc.*, 1937, 46, 698-704.—As a project undertaken in 1933 by high school supervisors of biology teaching and representatives of the Board of Examiners, a tentative scale for judging teachers of biology was devised, which is here given in full. The extensive work involved and the steps in the making of the scale are described. 118 items are retained as the most discriminatory and observable of those first suggested. On each point the rater indicates by 0 to 5 whether the question is true for the teacher never, rarely, usually, almost always, or always. The rater then uses as denominator for his total the score that he thinks "the ideal but humanly possible teacher" would attain.—*M. Lee* (Chicago).

1643. [Various.] Twenty-fourth annual conference on educational measurements. *Bull. Sch. Educ. Ind. Univ.*, 1937, 13, No. 4. Pp. 100.—Compilation of speeches given at the twenty-fourth annual conference on educational measurements, held at Indiana University April 16 and 17, 1937. Discussions deal with the content of a course in the introduction to education; the reorganization of local school districts in Ohio; report on NYA school aid activities; some experiments in teaching German vocabulary; some trends in educational measurement; constitutional tax limitations and their influence on education in Ohio; progress toward a science of education; an analysis of efficiency in addition; and the superintendent's appraisal of teacher candidates. Bibliographies.—(Courtesy *J. educ. Res.*)

1644. Vaughan, W. F. Our impractical education. *Sch. & Soc.*, 1937, 46, 688-689.—Noting the success of some amateur carpenters, with practical but no theoretical training, in squaring up a foundation for a summer cottage, the author put the same problem to a class of 113 advanced undergraduates. Only 38.4% of the men and 14.7% of the women could produce a right angle. This shows how little transfer there is from the classroom to daily living—unless perhaps theory and practice are combined in the learning process.—*M. Lee* (Chicago).

1645. Wilkins, W. L. The social adjustment of accelerated pupils. *Sch. Rev.*, 1936, 44, 445-455.—*R. R. Willoughby* (Brown).

1646. Wood, G. C. A study in the establishment of a norm in scientific attitudes and abilities among ninth-year pupils. *Sci. Educ.*, 1937, 21, 140-146.—This article deals with the kinds of material read by high-school pupils in newspapers and current periodicals, as secured through a questionnaire covering the pupils' backgrounds and interests, in the states of Illinois and Georgia.—(Courtesy *J. educ. Res.*)

1647. Woods, A. H., & Chase, G. Forms of personality obstructive to progress in college. *J. soc. Psychol.*, 1937, 8, 411-432.—The authors analyze the personality difficulties obstructive to progress in college in a group of 145 women students, a subgroup remaining from the group of women students referred to the college's investigation department after the elimination of all those whose trouble was primarily due to mental or physical disease or to poverty.—*E. D. Hunt* (Brown).

1648. Young, K. The use of the interview in college advisory work. *Psychol. Bull.*, 1937, 34, 745-746.—Abstract.—*R. H. Brown* (Clark).

[See also abstracts 1476, 1493, 1529, 1571, 1596, 1602, 1603, 1649, 1659, 1664, 1672, 1673, 1686.]

## MENTAL TESTS

1649. Berkeley-Hill, O. The employment of intelligence tests in schools in India. *Indian J. Psychol.*, 1937, 12, 17-29.—The paper presents the results of a questionnaire sent to each director of public instruction in India and Burma requesting information regarding the tests employed (if any), in what language they are given, by whom administered, and with what statistical results that would lead to establishing the ratios of mentally defective and backward in urban and rural areas. The verbatim replies from all of the provinces are presented, but no conclusions are drawn.—*L. A. Averill* (Worcester Teachers College).

1650. Bradway, K. P. Scale calibration by the Thomson method. *Psychol. Bull.*, 1937, 34, 748.—Abstract.—*R. H. Brown* (Clark).

1651. Bradway, K. P., & Hoffeditz, E. L. The basis for the personal constant. *J. educ. Psychol.*, 1937, 28, 501-513.—The authors present a summary translation of G. Vermeulen's description of his scale for measuring intelligence (*Les debiles mentaux—étude experimentale et clinique*; *Bull. Inst. gen. Psychol.*, 1922, No. 4-6), and a translation of the first part of H. Heinis' article in which the "personal constant" was proposed and defended (*La loi du developpement mental*; *Arch. Psychol., Gênes*, 1924, No. 74, 97-128). There follows a discussion of these and subsequent contributions to the concept of the "personal constant."—*A. W. Melton* (Missouri).

1652. Brill, M. The validity of the Porteus maze test. *J. educ. Psychol.*, 1937, 28, 481-493.—A comparative study of 50 well-adjusted and 50 seriously maladjusted mentally deficient boys on the Porteus maze test. Both groups of boys lived in institutions, and were equated in race, nationality, CA, MA, general health, and duration of institutionalization. Social adjustment was determined by the Vineland adjustment score card, and by an analysis of the detention cottage records. Contrary to Porteus' claim, the maladjusted boys scored higher on the maze test than the adjusted boys, although the difference was not reliable. Accordingly, the difference between scores on the Porteus and Binet tests is not diagnostic of maladjustment. Furthermore, the

scatter on the Porteus maze test does not differentiate reliably between the adjusted and maladjusted. Both the adjusted and maladjusted groups scored higher on the Porteus test than on the Binet test. The clinical value of the Porteus test is questioned.—*A. W. Melton* (Missouri).

1653. **Chen, L. K., & Chen, Y. T.** [A report of the construction and preliminary results of an adult non-language group intelligence scale.] *Educ. Rev.* (Chinese), 1936, 26, No. 1, 107-128.—An adult non-language group intelligence scale was constructed and administered to 502 persons (254 male and 248 female) of various professions, whose ages ranged from 9 to 48 years (mostly 13-18 years old) and whose education ranged from being illiterate to college freshmen. There are altogether 6 tests, viz., maze test, discrimination of similarities, crossing out the unlike, pairing of cube-number, time sequence, and geometrical constructions. The results showed that those who made highest average scores were aged 21 to 25 years; the younger and the older persons made lower average scores. Most of those who had received higher or secondary education made much better scores; those who had received only elementary education and the illiterate generally made poorer scores, though a few of them also made very good scores. The scholarship records of the college freshmen and their test scores were highly correlated, with a coefficient of  $.784 \pm .05$ ; for the illiterate and those who had received only elementary education, the coefficient was  $.364 \pm .115$ . The scores obtained on Liao's group intelligence scale by 46 persons (who had received elementary or secondary education) were correlated with the scores obtained in the present scale, with a coefficient of  $.786$ . Since this scale is still in the making, the future work will be concentrated on the construction of different norms, a T-scale, and a duplicate form.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1654. **Engel, A. M., & Baker, H. J.** *Detroit beginning first-grade intelligence test (revised)*. Yonkers-on-Hudson: World Book, 1937. \$1.10 per package of 25 tests, including manual of directions, key, and class record.—This revision is built on the use of the earlier test and on recent research with 10,000 first-grade children in Detroit. Reliability, as determined by correlating the weighted scores on odd-numbered items with the weighted scores on even-numbered items, is reported as .91 (corrected by the Spearman-Brown formula).—*M. Keller* (Brown).

1655. **Feder, D. D.** *Comprehension maturity tests—a new technique in mental measurement*. *Psychol. Bull.*, 1937, 34, 718-719.—Abstract.—*R. H. Brown* (Clark).

1656. **Hsiao, H. H.** [Hsiao's revision of the Merrill-Palmer scale.] Shanghai: Commercial Press, 1937. Pp. 67. \$40 mex.—The book reports the work of revising the Merrill-Palmer scale and describes in detail the tests adopted, the methods of administering and scoring them, and a guide for personality observations. The present revision is based upon the testing results from 1531 kinder-

garten, elementary-school and family children in Nanking, whose ages ranged from 18 to 71 months, and who were tested in 9 age groups of 6 months each. In the process of standardization all test elements (including those of variable-score and all-or-none tests) were reduced to an all-or-none basis of scoring, as Stutsman did. The point-scale principle was followed. 88 test items of diagnostic value were finally adopted, ranked according to difficulty, and distributed over the 9 age groups. A scoring blank is given. The diagnostic range of this revised scale is from 24 to 65 months inclusive. Two appendices are included on the sex differences in the test results and on the analysis of the action-agent test.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1657. **Luh, C. W., & Wu, T. M.** [Directions for the second revision of the Chinese Binet-Simon scale.] Shanghai: Commercial Press, 1936. Pp. 81. \$45 mex.—The book gives in detail the 54 tests (and by applying some of them to the different ages according to varying criteria, a total of 75 tests) adopted and the procedure for administering each of them; explains the motives of this new revision; lists the testing materials used; and describes the ways of computing the full-term chronological age. The 54 tests may be classified into 4 groups according to their nature (viz., language, number, drawings, and mechanical skill), most of them being taken from Terman's 1924 revision while others are adopted from Terman's revision of the Binet-Simon scale. The present revision may be used to measure the intelligence of Chinese children within the age range 6 to 14 years inclusive. The scores may be treated in terms of either mental age or point scale, and may be computed each from the other.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1658. **MacMurray, D.** *A comparison of the intelligence of gifted children and of dull-normal children measured by the Pintner-Paterson scale, as against the Stanford-Binet scale*. *J. Psychol.*, 1937, 4, 273-280.—A bright group of 50 children (S-B IQ 120 to 189, median 140) exhibited a mean decrement of 10.8 points in IQ, and a dull group of 50 (S-B IQ 63-107, median 87) exhibited a mean increment of 9.4 points in IQ on the Pintner-Paterson scale of all 22 tests. Thus the "spread" between these deviates is decreased by the P-P scale. Other procedures are given to show this effect in different ways. Limiting effects which account for this decrease in spread are pointed out, viz., off-scale performances of bright children, the inclusion of tests like the adaptation board, the top level of which is  $8\frac{1}{2}$  years, errors counted on the tacit assumption that the most intelligent way to handle the test situation is to think out in advance where a piece belongs and not make actual trials with it. It is concluded that a test which cannot measure deviates reliably is of dubious value, because those who need to be tested clinically are deviates.—*J. McV. Hunt* (Brown).

1659. **Maiti, H. P.** *A note on the employment of intelligence tests in schools in India*. *Indian J.*



*Psychol.*, 1937, 12, 31-35.—The author presents an analysis of the returns submitted by the several provincial directors of Indian schools to a questionnaire sent them by Owen Berkeley-Hill on the use of intelligence tests in India. He concludes that at present there is no adequate statistical material upon which any conclusions can be based about the extent of either mental deficiency or dullness in the Indian school population.—*L. A. Averill* (Worcester Teachers College).

1660. McCarthy, D. A study of the reliability of the Goodenough drawing test of intelligence. *Psychol. Bull.*, 1937, 34, 759-760.—Abstract.—*R. H. Brown* (Clark).

1661. Morris, C. M. An experimental analysis of certain performance tests. *Psychol. Bull.*, 1937, 34, 716-717.—Abstract.—*R. H. Brown* (Clark).

1662. Pintner, R., & Stanton, M. Repeated tests with the CAVD scale. *J. educ. Psychol.*, 1937, 28, 494-500.—Determination of the curve for the growth of intelligence from birth to maturity requires a test in which each unit on the scale is equal to every other unit in difficulty. The Thorndike CAVD test is the only one that satisfies this criterion. 140 children in grades I to VIII were tested annually (2-6 years) with the CAVD test, and their annual gains or losses determined. The average of all annual gains was 1.06 points on the CAVD scale, i.e., about 1/40 of the total range of the scale, and about 1.5 years of mental age in the age range between 6 and 12. Although individual gains from year to year fluctuated widely, there seemed to be a slight decrease in the average gain from year to year. "Our results . . . fit in with the theory of a parabolic rather than a straight line curve representing the general growth of intelligence."—*A. W. Melton* (Missouri).

1663. Smith, F. O. What the Goodenough intelligence test measures. *Psychol. Bull.*, 1937, 34, 760-761.—Abstract.—*R. H. Brown* (Clark).

1664. Wile, I. S., & Davis, R. A study of the basal age with reference to its meaning for school adjustment. *Amer. J. Orthopsychiat.*, 1937, 7, 441-455.—300 children, comprising 50 children in each of 6 groups of intelligence quotients, were studied to observe any general trends of relationship between basal age (the highest year at which all tests are passed), mental age, and chronological age. Mental defectives tended to show a basal age closely approximating the mental age. Basal age and reading age have a higher correlation than do basal age and age-grade status. Arithmetic reasoning achievement showed more correlation with basal age, while arithmetic computation progress correlated more closely with mental age. The authors conclude that basal age, which represents the level of integrated intellectual development, is a more important guide than mental age in the prognosis of school efficiency.—*E. D. Hunt* (Brown).

1665. Wu, T. M. [On the second revision of the Chinese Binet-Simon scale.] Shanghai: Commer-

cial Press, 1936. Pp. 70. \$.30 mex.—The book reports in detail the work of revising the Chinese revision of the Binet-Simon scale on the basis of the testing results from 633 Peiping elementary-school children (327 boys and 306 girls, covering all 6 grades, whose ages ranged from 6 to 14½ years inclusive); and explains the motives for the present revision. The author points out that the new revision excels the old one in several respects, viz., (1) construction of a point scale, (2) wording of the tests in the Peiping dialect, (3) cancellation of unsuitable test problems, and (4) transposition of test items.—*C.-F. Wu* (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

## CHILDHOOD AND ADOLESCENCE

1666. [Anon.] Zusammenfassung in deutscher Sprache der Ergebnisse der Arbeit Dr. Bruno Manzoni's. (Summary in German of the results of Dr. Bruno Manzoni's studies.) *Z. Kinderpsychiat.*, 1937, 4, 71-73.—A summary of articles on "The problem of abnormal school children in the Canton of Ticino." See XI: 286, 2018, 3008, and 3009, 1937.—*D. Shakow* (Worcester State Hospital).

1667. Bender, L., & Blau, A. The reaction of children to sexual relations with adults. *Amer. J. Orthopsychiat.*, 1937, 7, 500-518.—The cases of 16 unselected children who were referred by the children's courts because of sexual experiences with adults are reported. The sexual relationship in these cases did not appear to depend solely on the adult. Nearly all of the children had conspicuously charming personalities. Their emotional reactions were remarkably devoid of guilt, and there was evidence that they derived emotional satisfaction from the experience. The increased sex interests retarded the development of some of the children, the reaction varying with their age. Treatment consisted of frank discussion of sex matters, the presentation of other means of expression, and sufficient demonstration of affection from the adults in the environment. Some children required prolonged institutionalization.—*E. D. Hunt* (Brown).

1668. Bennett, G. K. Reported interests and activities of 3000 adolescents. *Psychol. Bull.*, 1937, 37, 763.—Abstract.—*R. H. Brown* (Clark).

1669. Blatz, W. E., & others. Collected studies on the Dionne quintuplets. Toronto: Univ. Toronto Press, 1937. \$4.00.—This is a bound volume made up of *University of Toronto Studies, Child Development Series*, Nos. 11-16. A. R. Dafeo writes an introduction.—*R. R. Willoughby* (Brown).

1670. Blatz, W. E., & Millichamp, D. A. The mental growth of the Dionne quintuplets. *Univ. Toronto Stud., Child Developm. Ser.*, 1937, No. 12. Pp. 13 + tables, graphs, plates.—Gesell, Kuhlmann, and Merrill-Palmer tests were used. The subjects show general retardation, most severe in language and least severe in motor functions. Full data and some photographs of the testing situations are given.—*R. R. Willoughby* (Brown).

1671. Blatz, W. E., Millichamp, D. A., & Charles, M. W. The early social development of the Dionne quintuplets. *Univ. Toronto Stud., Child Develpm. Ser.*, 1937, No. 13. Pp. 40 + plates.—Analysis is made and individual differences established in such variables as "to" and "from" contacts (both initiated and response), and watching. Marked and more or less stable personality differences have already appeared, suggesting that these differences are environmental rather than hereditary and tend to be fixed by reactions to fortuitous stimuli, which in turn act as stimuli for other reactions. The data are tabled and graphed and there are photographs of typical social behavior.—R. R. Willoughby (Brown).

1672. Blatz, W. E., Millichamp, D. A., & Chant, N. The development of self-discipline in the Dionne quintuplets. *Univ. Toronto Stud., Child Develpm. Ser.*, No. 14. Pp. 40 + plates.—Records were kept of non-compliant behavior for each child in each type of activity (washing, toilet, etc.) and of disciplinary measures used (of which the principal was isolation). Eating and indoor play gave the most trouble; there were improvements in all the children with age; there were fairly well-marked individual differences. Anger and fear situations are differentiated according to a theoretical basis which is given in full. There are tables, graphs, and photographs.—R. R. Willoughby (Brown).

1673. Blatz, W. E., Millichamp, D. A., & Harris, A. L. Routine training of the Dionne quintuplets (sleeping, eating, elimination routine, washing, dressing, and play). *Univ. Toronto Stud., Child Develpm. Ser.*, 1937, No. 15. Pp. 48 + plates.—Accounts are given of the physical surroundings, staff, principles, and daily routine; and the latter is compared in parallel columns with a control group at St. George's Nursery School. Each routine is then taken up in detail, with history, tables, and graphs showing the process of socialization. There are a number of photographs of surroundings and routine situations.—R. R. Willoughby (Brown).

1674. Blatz, W. E., Fletcher, M. I., & Mason, M. Early development in spoken language of the Dionne quintuplets. *Univ. Toronto Stud., Child Develpm. Ser.*, 1937, No. 16. Pp. 13 + graphs and charts.—After a short review of the literature comparisons are made between various measures of the speech development of the quintuplets and those for a control group at St. George's Nursery School; the quintuplets are retarded more than are twins. One child (Annette) is imitated more than the others, corresponding to her position in general social activities. Graphs show the developments described, and charts in the pocket of the book give the full data.—R. R. Willoughby (Brown).

1675. Block, V. L. Conflicts of adolescents with their mothers. *J. abnorm. soc. Psychol.*, 1937, 32, 193-206.—Most of the conflicts are due to: differences in thinking regarding personal appearances, habits and manners; differences in thinking regarding vocational, social, recreational and educational choices; differences in thinking regarding the value

of certain activities, habits, attitudes, etc., in the attainment of goals; and differences in philosophy regarding recreational and physical activities. Some problems which seemingly are the source of disturbances to a large percentage of girls are the basis of disturbances to only a small percentage of boys, and vice versa. In every grade level, in the group studied, where the mean percentage of girls reporting conflicts arising from the set of problems used in the questionnaire was compared with the mean percentage of boys, the girls consistently showed a higher mean percentage of disturbances, with the higher grades showing the greatest differences. Based on the study made, a group of parents and teachers worked together in defining, interpreting and planning experiences for children which would be most conducive to balance, satisfaction and interest. The consensus of opinion after a year of work was that the number of conflicts had been considerably reduced.—C. H. Johnson (Boston Psychopathic Hospital).

1676. Boenheim, C. Beitrag zum Verständnis des kindlichen Trieblebens. (Contribution to the understanding of the child's instinctive life.) *Z. Kinderpsychiat.*, 1937, 4, 77-84.—Discussion of various problems connected with drives and emotional development, such as sucking, masturbation, curiosity, etc.—D. Shakow (Worcester State Hospital).

1677. Böhme, K. Kindertümllichkeit der Flächen- und Linienspielsachen. (Suitability for children of surface and line toys.) *Z. pädag. Psychol.*, 1937, 38, 228-233.—From his studies on children 3-6 years old, Böhme finds that Froebel's "tables" and linear gifts are too difficult for 3-year-olds, but are adapted to 4-year-olds. However, the basic forms are too few, they provide only a single stimulus (the making of series or patterns), and, since they are derived from mathematical and not realistic considerations, they are not adapted to building copies of the things in the child's environment. For free development of the sense of beauty and practical forms, surface and line toys must represent the chief basic forms of the world of things, be symmetrical, be of accurately proportioned size, and be predominantly gray, but with red, yellow, blue, and green represented in definite relations; and several examples of each piece must be included in the set. A chart illustrating these principles is given.—M. E. Morse (Baltimore).

1678. Brunswick, E., & Cruikshank, R. M. Perceptual size-constancy in early infancy. *Psychol. Bull.*, 1937, 34, 713-714.—Abstract.—R. H. Brown (Clark).

1679. Cameron, W. J. An illustrative case in a comprehensive growth study of adolescents. *Psychol. Bull.*, 1937, 34, 762-783.—Abstract.—R. H. Brown (Clark).

1680. Christoffel, A. Zur Kinderpsychiatrie vor 50 Jahren. (The child psychiatry of 50 years ago.) *Z. Kinderpsychiat.*, 1937, 4, 65-71.—Second of two installments on the child psychiatry of 50 years ago,

based mainly on Emminghaus.—*D. Shakow* (Worcester State Hospital).

1681. **Clarke, F. M., Hunt, W. A., & Hunt, E. B.** Incidental responses in infants following a startle stimulus. *J. gen. Psychol.*, 1937, 17, 398-402.—"An investigation of the incidental responses appearing in a group of 60 children ranging in age from 8 days to 18 months, as a result of a sudden loud sound, showed that while crying, escape, and orientation may be present, such behavior is not universal. Overflow effects such as tumescence and defecation are also present. The relationship of these responses to age level is discussed."—*H. Schlosberg* (Brown).

1682. **Davis, E. A.** The development of linguistic skill in twins, singletons with siblings, and only children from age five to ten years. *Univ. Minn. Child Welf. Monogr. Ser.*, 1937, No. 14. Pp. 174.—The author gives a detailed analysis of 50 remarks obtained in a standardized situation from each of 436 children between the ages of 5½ and 9½ years. It was found that only children are definitely superior to children with siblings, and singletons with siblings are in turn somewhat superior to twins in every phase of linguistic skill. Twins from upper occupational groups by 9½ years have practically overcome their language handicap, but twins from lower occupational groups have made relatively little progress. Twins are especially retarded in perfection of articulation. The data indicate that faulty articulation, if unduly prolonged, may become a major handicap preventing both adequate command of language and wholesome development of the personality.—*J. McV. Hunt* (Brown).

1683. **Desmet, T., Mertens, H., & Vincent, —.** La sélection des élèves au début de études secondaires. (The selection of students at the beginning of their secondary studies.) *Bull. Off. intercommun. Orient. prof.*, 1937, 17, 8-18.—The authors discuss the data obtained from an inquiry into the possible cause of lack of success in the classics (the secondary teaching of Latin and Greek) and the scholastic achievements of 282 students in their first and second years of work, students who had taken entrance tests on memory of ideas, attention (Toulouse and Piéron), verbal invention (completion tests), verbal judgment (Decroly), analogies (Baumgarten), verbal reasoning (the army tests), and reasoning (Thurstone-Mira). The percentage of success was in general higher for those who had been classed as good according to their scores in the tests than for those classed as average, while the percentage of failure was higher for the average group than for those who had made the higher test scores.—*R. Nihard* (Liège).

1684. **Despert, J. L.** Technical approaches used in the study and treatment of emotional problems in children. Part four: Collective fantasy. *Psychiat. Quart.*, 1937, 11, 491-506.—The collective fantasy experiment provides a motor outlet. Children identify themselves with the personages they fantasize, and consequently live through the emotions which they attribute to these personages. It

provides an outlet for the release of aggressive impulses, though the released aggression is non-specific as opposed to that obtained by individual methods. It is, however, an excellent means of abreaction. Imitation and suggestibility play an important role in this collective experience. It is felt that the problem of aggressiveness is in some way related to the problem of creativeness.—*C. R. Atwell* (Boston Psychopathic Hospital).

1685. **Fambri, E.** L'Opera Nazionale Balilla e la prevenzione degli infortuni giovanili. (The Opera Nazionale Balilla and the prevention of juvenile accidents.) *Difesa soc.*, 1936, No. 11, 896-902.—*L. Canestrelli* (Rome).

1686. **Galkin, J.** The treatment possibilities offered by the summer camp as a supplement to the child guidance clinic. *Amer. J. Orthopsychiat.*, 1937, 7, 474-482.—The summer camp offers an unusual opportunity for clinical experience with problem children; both diagnostic and therapeutic gains result from observation and treatment of the problem child in a semi-controlled environment away from the home setting.—*E. D. Hunt* (Brown).

1687. **Goodenough, F. L.** The observation of children's behaviors as a method in social psychology. *Soc. Forces*, 1937, 15, 476-479.—The author defines the term *observation* and discusses the variations of the time-sampling method applied to children's behavior. This method is not adequate for the study of individual differences, since the "trait" is specific to the conditions under which it is displayed. Since the experimenter cannot control the situation, but merely selects situations which have certain features in common, great variability of situation occurs, and thus apparent differences between behaviors are minimized. Such observations require much more time spent by the investigator, a larger number of samples being necessary to secure the statistical criterion of a difference 3 or more times its standard error. The method also involves the question of how much confidence may be placed in the original data.—*F. G. Allen* (Brown).

1688. **Grüneberg, R.** Typen schwieriger Kinder. (Types of difficult children.) *Z. Kinderpsychiat.*, 1937, 4, 44-54.—The author suggests a classification of difficult children into four types: defiant (*Trotskytypus*), seclusive (*Abwendungstypus*), regressive (*Regressionstypus*), precocious (*Antizipationstypus*), and discusses the characteristic traits of these types.—*D. Shakow* (Worcester State Hospital).

1689. **Hill, J.** Infant feeding and personality disorders. A study of early feeding in its relation to emotional and digestive disorders. *Psychiat. Quart.*, 1937, 11, 356-382.—172 cases were studied in three groups in which the breast feeding was inadequate, excessive, and adequate. The conclusions are reached that inadequate or excessive breast feeding is undesirable from both the physiological and the psychological standpoints; both extremes are common; a strong familial interest in the upper alimentary tract and a faulty maternal emotional reaction to the child are most important factors in functional



gastro-intestinal and emotional disorders.—C. R. Atwell (Boston Psychopathic Hospital).

1690. Holmer, P. **The use of the play situation as an aid to diagnosis. A case report.** *Amer. J. Orthopsychiat.*, 1937, 7, 523-531.—E. D. Hunt (Brown).

1691. Hsiao, H. H. [Psychology of Chinese children.] *Chung Hua educ. Rev.*, 1936, 23, No. 7, 11-20.—The author summarily presents the results of his studies of the psychology of Chinese children on the following problems: (1) intelligence growth (tested by means of a Chinese revision of Goodenough's drawing-of-a-man test); (2) motor ability (tested by means of tapping, eye-hand co-ordination, and hand-movement tests); (3) form perception (tested by means of the Seguin form board and Decroly matching game), color perception (tested by means of the Ishihara test), position perception, and number perception; (4) language development; (5) emotional reaction (tested by means of a Chinese revision of the X-O test); and (6) personality measurement (by means of Marston's personality rating scale). The author concludes that Chinese children are superior to American children in intelligence and perception, while difference in language ability is yet uncertain. Among Chinese children, boys and girls have both similarities and differences in emotional responses, personality inclinations, and suggestibility.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1692. Hsiao, H. H. [Some experiments on the development of children's perception.] *Educ. Rev.* (Chinese), 1936, 26, No. 1, 173-182.—Three experiments on children's perception were reported. Number perception was studied by means of 6 tests in 92 kindergarten pupils, 3-6 years old. The results show that number-counting is most easy, while perception of fractional number is most difficult for these children; and that perception of fractional number develops with advancing age. Spatial perception was studied by means of 5 tests in 183 elementary-school pupils, 6-12 years old. The results show that in general position perception develops with advancing age, and that the number of children who cross out inverted figures is inversely proportional to age. Time perception was studied by means of the Baldwin-Stecher scale in 90 kindergarten children, 3-6 years old. The results show that in these children the concepts of hour, day, and year are, though growing, very limited in development; and that their time concepts are generally based on activities.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1693. Huang, I., & Chu, Y. J. [The social function of children's language.] *Chung Hua educ. Rev.*, 1936, 23, No. 7, 69-94.—A total of 1500 sentences and phrases was recorded verbatim by a short-sample method from the language spoken by 21 nursery-school children, 2½-5 years old, in their everyday natural circumstances. Analyses of the data showed that of all sentences spoken by all these children, socialized language (80%) pre-

dominates over egocentric language (20%) by a ratio of 4 to 1. Among the latter, monologue has the highest percentage, 11.8%. Among the former, "language about other persons" (12.5%) and "language about self" (11.6%) have the highest, and "language about the group" (3.3%) the lowest percentage. Egocentric language decreases with the advance of age, due chiefly to decrease of monologue. On the other hand, socialized language increases with advancing age, and is especially marked in language about play, the group, other persons, sociality, and interrogation. In short, the development of children's language tends to be more and more socialized in function. The present findings are in accord with those of Piaget.—C.-F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1694. Jersild, A. T. **Children's information and opinions.** *Psychol. Bull.*, 1937, 34, 761.—Abstract.—R. H. Brown (Clark).

1695. Jones, H. E. **Methodological problems in a growth study of adolescents.** *Psychol. Bull.*, 1937, 34, 761-762.—Abstract.—R. H. Brown (Clark).

1696. Kohn, H. A. **Some experiences with the Pressey X-O test using a group of normal orphan children in a superior institutional environment.** *J. genet. Psychol.*, 1937, 51, 219-222.—The Pressey X-O test, form B, was given to 118 girls and 149 boys from the 9th through the 12th grades of the Mooseheart high school. Analysis of the data indicated that in the population studied the test revealed no significant differences in total emotionality or affectivity as measured by this instrument, no significant differences between scores of the high school students of successive grades, and no significant differences in total affectivity scores of problem and non-problem children of either sex.—E. Heidbreder (Wellesley).

1697. Korczak, J. **Observation d'un cas d'onanisme chez un garçon.** (A case of onanism in a boy.) *Z. Kinderpsychiat.*, 1937, 4, 39-44.—D. Shakow (Worcester State Hospital).

1698. Kuo, H. H. [A study of the language development of Chinese children.] *Chin. J. Psychol.*, 1937, 1, 334-364.—Spontaneous language was recorded verbatim from four children, 3-5 years old; the method used was modified from Piaget. The number of sentences taken ranged from 62 to 243. A verbal filling-in-blanks test was also given to 16 school children, 7-9 years old, for the ability to use different kinds of conjunctions. It was found that the length of the sentence increases, but very slowly, from 3 to 5 years of age. Egocentric speech occupies 10-20% of the children's conversation at this stage, and decreases with age. With socialized speech, commands, threats, and similar utterances occupy about 20%. Simple sentences occupy more than 40%. Complex, compound, and complex-compound sentences have all appeared at ages 3-5. At 3-4 the children's ability to use conjunctions is very rudimentary. The different kinds of conjunctions appear gradually. At the age of 7-9, the use of the conjunctions of discordance is still very faulty. A

résumé of the work of Piaget, McCarthy, and Fisher is given.—C. F. Wu (Nat. Res. Inst. Psychol., Acad. Sinica, Nanking).

1699. Laird, D. A. *How we get to be human.* (Film.) Hamilton, N. Y.: Colgate Univ., 1937. 1200 ft., 16 mm. At actual cost of prints.—Animated diagrams show the embryonic formation of the neural tube and base of skull. Human subjects show reflexes present at birth and such embryological maldevelopments as hare lip, cleft palate, and spina bifida, and their surgical cure. Monsters and twinning, including quintuplets diagnosed by x-ray before birth. Filmed in cooperation with medical specialists in several states. Not suited for mixed or immature groups. Fully titled.—D. A. Laird (Colgate).

1700. Lehman, H. C. *Chronological age and several kinds of superior performance.* *Psychol. Bull.*, 1937, 34, 764-765.—Abstract.—R. H. Brown (Clark).

1701. Lewis, F. H. *Muscular tension and social adjustment in pre-adolescent children.* *Psychol. Bull.*, 1937, 34, 781-782.—Abstract.—R. H. Brown (Clark).

1702. MacArthur, J. W., & Ford, N. *A biological study of the Dionne quintuplets—an identical set.* *Univ. Toronto Stud., Child Developm. Ser.*, 1937, No. 11. Pp. 49 + 7 plates.—The quintuplets show close similarity in several physical characters, some of them rare. The fetal membranes are characteristic of a monozygotic set. Principal reliance is placed on the evidence of various dermatoglyphic measures, in which the quintuplets are much more nearly alike than they are like their siblings or the siblings are like each other. The literature on quintuplets is reviewed. Bibliography of 30 items; plates of finger prints, palm prints, sole prints, composite sole diagrams, face photographs, and doubled half-face photographs.—R. R. Willoughby (Brown).

1703. Mazzeo, M. *Sviluppo psichico del bambino e del fanciullo.* (The psychological development of the infant and child.) *Folia med., Napoli*, 1934, No. 21, 1211-1218; 1935, No. 4, 198-211.—The following subjects are discussed: first movements, reflexes and senses, psychological manifestations, language, curiosity and attention, and play.—L. Canestrelli (Rome).

1704. Meyer, E., & Piaget, J. *Some of the child's conceptions of time and speed.* *Psychol. Bull.*, 1937, 34, 702-703.—Abstract.—R. H. Brown (Clark).

1705. Molinis, G. *Lo studio della costituzione individuale in rapporto alla educazione fisica e allo sviluppo psichico dell'adolescente.* (A study of the individual constitution in relation to the physical education and psychological development of the

adolescent.) *Riv. Sci. appl. Educ. fis. giov.*, 1936, No. 12, 46-65.—L. Canestrelli (Rome).

1706. Molitch, M., & Sullivan, J. P. *The effect of benzedrine sulfate on children taking the new Stanford achievement test.* *Amer. J. Orthopsychiat.*, 1937, 7, 519-522.—The new Stanford achievement test was given to 96 boys between 10 and 17 years. A week later, 50 of the boys were given 10 mg. of benzedrine and the remainder a placebo, and retested. 26 of the boys who either lost or failed to improve their total (average) score more than 5 points were given 20 mg. of benzedrine and again retested. Although 8.6% of the boys on the placebo showed a gain in their scores, the group as a whole showed a loss of 29 points of total score. 32% of the boys on 10 mg. of benzedrine gained in their scores and the group as a whole showed a gain of 63 points. Of the boys who were retested after having been given 20 mg. of benzedrine, 92.3% gained in their scores and the entire group showed a gain of 117 points of total score.—E. D. Hunt (Brown).

1707. Moorthy, B. M. L. *Mental hygiene for children.* *Mysore econ. J.*, 1937, Jan.-July, n.p.—R. R. Willoughby (Brown).

1708. Murphy, J. F. *The dependent boy; a comparative analysis of three groups of boys living under widely different conditions in reference to a selected number of non-intellectual traits.* Washington: Catholic Univ. of America, 1937. Pp. 204. \$2.00.—This is a study of the effect on the personality of a child of prolonged residence in either an institution or a foster home as compared with residence in his own home. A group of 50 boys was selected and studied. It was found that: (1) although the children in the institutional group resembled most closely the "hypothetical average boy" created for the attitude test (Sweet's), the children in the general population were more mature socially (Furfey's index); (2) while the foster home group resembled the institutional group in level of maturity, their attitudes were more similar to those of the children in the general population; (3) there was a tendency for the institutional children to be more critical of themselves, to have a greater feeling of being different from other boys, and to have a greater feeling of inferiority; (4) the children in the dependent group had a greater feeling of superiority, but a lower degree of social insight. The observed differences could not be traced to the influence of such factors as intelligence, school grade, nationality, status of parents, etc. Family, religious and occupational interests of the three groups did not differ appreciably, as revealed in a personal interview.—E. T. Raney (Brown).

[See also abstracts 1079, 1109, 1203, 1222, 1304, 1346, 1347, 1403, 1429, 1430, 1479, 1482, 1500, 1511, 1563, 1589, 1590, 1597, 1616, 1624, 1658.]

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